The Harveian Lectures

ON

FIBROIDS OF THE UTERUS AND ITS LIGAMENTS CONSIDERED FROM A CLINICAL AND SURGICAL STANDPOINT.

Delivered before the Harveian Society of London on Nov. 6th, 13th, and 20th, 1902,

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LECTURE II.[1]

Delivered on Nov. 13th, 1902.

THE TREATMENT OF THE OVARIES IN HYSTERECTOMY FOR FIBROID.

MR. PRESIDENT AND GENTLEMEN,—Mr. J. Bland-Sutton, fortified by Dr. G. Crewdson Thomas's valuable statistics,[2] maintains that when more or less of the ovaries is left the catamenia are not, as a rule, suppressed, whilst in cases when they stop the menopause symptoms are far less severe than when the ovaries are entirely extirpated. But certain authorities hold that other conditions are necessary, besides leaving ovarian tissue, to ward off a severe menopause, whilst there may be distinct evil effects due to leaving ovaries behind. On the strength of experience, on which I shall shortly dwell at some length, I maintain that this conservative operation entails benefits, but that those benefits have been over-estimated. There is no reliable homology between the removal of normal ovaries with a fibroid uterus and double ovariotomy for ovarian tumours. We know nothing about the influence which ovarian new growths may exert on the menstrual phenomena before they are removed. As a rule the period is quite unaffected in double cystic disease, whilst some malignant tumours are associated with amenorrhœa which sets in long before cachexia. I find that in a series of double dermoids in my own practice flushings, &c., were very rare, though the suppression of the period was rapid and complete after ovariotomy. Yet in my first case (1882) when the patient was 32 years of age, and where there could be no doubt about the complete extirpation of both tumours, there were troublesome flushings for nearly 10 years. No period occurred after the operation. Again, when enucleation is necessary, it is very possible that a piece of healthy ovarian tissue may be left in the ovarian ligament, as in a case of my own where the patient bore a child two years after a second ovariotomy.[3] Martin's tables of his double ovariotomies[4] are instructive but of no value for our present purpose for reasons just suggested. He makes no note of severe menopause symptoms. I must remark, however, that he registers one case where cancer of the cervix occurred in a patient from whom he had removed two ovarian tumours of an innocent type. We may bear this in mind when considering cancer of the stump after hysterectomy.

If we cannot, in relation to our present purpose, dwell profitably on the effects of double ovariotomy for tumours on menstruation, still less need we pause to consider the results of oöphorectomy for inflammatory diseases of the appendages or for checking the growth of a fibroid. In hysterectomy for fibroid, as was explained in the first lecture, the extirpation of the ovaries is nearly always easy and thorough when so desired. After oöphorectomy for any purpose he is bold who can ever feel certain that no ovarian tissue has been left behind. So I will say no more concerning the loss of both ovaries save so far as it regards hysterectomy for fibroids. I shall have to make use of the term "cervical menstruation," by which a periodical flow of blood from the stump of the cervix after hysterectomy is understood. The term is clearly convenient, but the precise nature of cervical menstruation remains obscure. Bleeding from the stump of the cervix may be due in some cases to a polypus or to an interstitial fibroid in its walls, but then the flow is not necessarily periodical and regular and not associated with molimen; this was the case in one instance which I shall mention when speaking of bleeding in relation to diagnosis of uterine fibroids. It is certain that true cervical menstruation is not caused by overlooked polypi and interstitial growths.

There are four questions to be solved in respect to the treatment of the ovaries in hysterectomy for fibroid. We must firstly find out if the period always ceases after hysterectomy with removal of both ovaries; secondly, if their removal really involves very bad menopause symptoms; thirdly, if, when more or less be left of the ovaries, the period will continue regular; and lastly, if this preservation of the ovaries be wholly beneficial. In order to throw light on these four questions I have carefully scrutinised 44 cases in my own operative practice between March, 1897, and July, 1901, rejecting several more where the after history is too short or otherwise unreliable. The cases may be grouped under three classes: Class I., both ovaries removed, includes 25 cases; Class II., one ovary or part of one ovary not removed, 17 cases; and Class III., neither ovary removed, two cases. As I have found that the worst features of fibroid prevail between 40 and 45 years of age I have operated most frequently on patients at about that age (24 out of the 44 cases), leaving 12 whom I may call "young" and eight "old." One case, 50 years old, is included as still menstruating, all older cases are rejected.

In considering the first question let us see if removal of both ovaries necessarily results either in immediate or at least in speedy and absolute suppression of the menstrual function. In my 25 cases where both ovaries were entirely removed no show of blood, with more or less molimen, occurred after convalescence in any save in four distinct exceptions. In one of these it appeared once six months after operation, in one it reappeared and still occurred, though irregularly, 13 months after operation, in one it was maintained two years, and in the fourth for two years and seven months, though clearly beginning to cease. I have sketches of the parts removed in two of these cases and they show that the ovaries came away entire whilst the infundibulo-pelvic ligament was tied and divided well outside each ovary. I have already explained that it is almost as difficult not to take away the ovaries entire in a hysterectomy as it is hard to extirpate them entirely when the fibroid uterus is left behind. Thus suppression of the menses is not always immediate and absolute, for cervical menstruation, *whatever that may be*, continues in some cases. It always tends to cease, but it may do so, as will be presently shown, when one or even both ovaries are saved.

The second question is closely associated with the first. Does removal of both ovaries necessarily cause very bad menopause symptoms? In 21 cases, those where the menopause was complete after the removal of both ovaries, there were no symptoms whatever in seven, mild and infrequent flushings in seven, and severe symptoms in seven. In six of the last seven there were simply the usual subjective evidences of the change of life severe enough to give discomfort. The seventh developed symptoms of persecutory mania a few months after the operation; they soon subsided. Her relatives then informed me, for the first time, that she had already suffered from persecutory mania. In another case, of which I lost sight within four months after the operation, so that she is not included in the series, the patient, an eccentric single woman, aged 42 years, left home with her nurse after convalescence and has refused ever since to communicate with her relatives, but the operation was not followed by shock and there is no reason to believe that she became insane. I find that Dr. Crewdson Thomas registers two cases of mental symptoms, both in patients of unstable mind before the operation. But post-operative insanity is well known in general surgery. Most of us have seen the specimen in the Museum of the Royal College of Surgeons of England of two cysts removed from the breast of a woman, aged 51 years, with its history. "The patient became insane soon after the operation."[5] Again, coincidence must be taken into account as well as other considerations in any example of insanity associated

[1] Lecture I. was published in THE LANCET of Feb. 7th, 1903, p. 350.
[2] The After-histories of 100 Cases of Supravaginal Hysterectomy for Fibroids, THE LANCET, Feb. 1st, 1902, p. 294.
[3] Pregnancy after Removal of both Ovaries for Cystic Tumour, Transactions of the Obstetrical Society, vol. xliv. (1902), p. 231.
[4] Die Krankheiten der Eierstöcke und Nebeneierstöcke, 1899, p. 907.
[5] Museum of the Royal College of Surgeons of England, Pathological Series, No. 4760.

not only with operations but also with an operable disease where nothing has been done. I had two instructive cases in my wards at the Samaritan Hospital a few years ago. One was a hysterectomy for fibroid where I used the serre-nœud. The patient was violently excited on the second and third days, but ultimately calmed down and got perfectly well. At the same time there was a middle-aged woman in another ward with an ovarian tumour, probably dermoid, and to all outward appearances a simple case. On the day before that which had been fixed for the ovariotomy this patient had a violent attack of acute mania. She was removed and died a few days later with no symptoms attributable to the tumour. Had I operated on the day before the attack and had the same fatal complication followed the ovariotomy I certainly should have charged the operation with causing the mania and I must have registered the case as a death *after*—always understood as *from*—ovariotomy.

The above cases show that we must be careful about throwing the blame on the operation and not too ready to attribute mental complications to the manner in which the ovaries are treated. I do not deny that removal of the fibroid uterus seems to have a specially bad influence on a patient liable to mental disease. I know of two cases of acute mania after hysterectomy with application of the serre-nœud: one was reported by Dr. Herbert Spencer at the Manchester meeting of the British Medical Association. I suppose that psychologists would include my own case just mentioned. The serre-nœud always gave great pain, a fact which should be taken into account.

We must now return to other points of interest in association with my 21 cases of hysterectomy where the menopause was complete after the removal of both ovaries. Marked *corpulence*, developing rapidly, was noted in two cases; in one the patient was 30 years of age and in the other 50 years of age, but still menstruating. Yet sudden accession of stoutness was also observed in a patient aged 40 years where one ovary was saved. In respect to *age*, Dr. Crewdson Thomas lays stress on youth in relation to the severity of the artificial menopause. According to his tables "the younger the patient who has her ovaries removed the more severe will be her artificial menopause." Out of my 25 cases where both ovaries were removed four were under 40 years of age and of these one had severe symptoms, two had mild, and one had no symptoms at all, but these numbers are too small to be trustworthy. Lastly, as in seven out of 25 cases of removal of the ovaries with the uterus, or 28 per cent., there were marked menopause symptoms I think that it is best to leave one or both ovaries if healthy, the more so as this conservative practice involves a far smaller wound on each side of the cervix. But at the same time my experience shows that retention of the ovaries is not a matter of supreme importance and I find, as will be shown, that it does not guarantee the patient against a severe menopause. Hence I never scruple to remove the ovaries when there is the least suspicion of ovarian tumour or when there is marked inflammatory disease of the appendages

The third question is whether the period remains regular after hysterectomy when more or less is left of the ovaries.[6] In two out of the 44 cases I removed neither ovary. One patient was 24 years of age; her period continued regular over two years after the operation. The other was 45 years of age; I removed a tumour over 12 pounds in weight. The period occurred three times after the operation and then ceased altogether. This may have been a natural menopause. In 17 of the 44 cases I left one ovary or in one case only a piece of one ovary. In only four did the period persist; strange to say, one of these patients is phthisical, yet she remains regular over two years after the operation. In four there was irregular "show," whilst in the remaining nine, or nearly 53 per cent. of the 17 cases, the period did not appear after operation, and in five out of these nine the menopause was distinctly severe. One of the five was 36 years old; all the others were between 40 and 45 years of age.

There is another factor, however, to be considered besides the preservation of the ovaries—that is, the preservation of a portion of the tissue of the uterus above the cervix as well. Abel and Zweifel[7] declare that it must be saved, and, what is more, it is a bit of the uterine mucosa above the os internum that must be left, else a severe menopause will come on at least within three years. Dr. Crewdson Thomas kindly informs me that he "was unable to get any evidence to support this view." American authorities ignore Abel-Zweifel principles, for Kelly directs that the uterus be divided "in its cervical portion at a point just above the vaginal junction";[8] and Noble[9] considers that in Europe too much cervix is left. The results of panhysterectomy where no cervix is left have not been accurately recorded. My own experience, to a certain extent, supports the Abel-Zweifel theory. For in six of the cases where the period was completely suppressed though one ovary was not removed, I had cut the stump short entirely below the os internum. Persistence of the period was noted in three cases where one ovary was left and uterine tissue above the cervix was included in the flaps. But it also persisted in a fourth case where the stump was entirely cervical, whilst, on the other hand, it was suppressed entirely in three cases where the flaps included uterine tissue and at the same time one ovary was left behind. We must beware of making uterine flaps to accommodate ourselves to a theory which is not thoroughly proved by experience, and which, if true, can only confer a benefit of not very high value. The practice is not without danger. Large fleshy flaps are liable to slough, especially when the patient is reduced by anæmia. I lost two cases in this manner, whilst in some included in this series I observed symptoms during convalescence which gave me anxiety and other operators have informed me that their experience is similar.

We have now to consider the fourth question: Is the practice of leaving the ovaries or sparing one ovary wholly beneficial? has it any disadvantages? and may it not be dangerous in certain circumstances? How far removal or saving of the ovaries influences the possibility of cancer developing in the stump we cannot say, but this matter will be considered presently. Cancer of the stump seems unknown in British practice. There can be no doubt, however, that the appendages when retained occasionally inflame. Both Fritsch and myself have observed peri-metritis after hysterectomy. I suspect that this complication is usually due, not to inflammation of an ovary, but to an unhealthy tube. The tubal canal after ligature and division lies exposed at the point where the tube has been cut through. Not only immediate, but also distant, inflammation might follow. Dr. G. G. Bantock recently removed a pyosalpinx which had developed seven years after hysterectomy for fibroid. I always sacrifice appendages which seem unhealthy in order to avoid these undesirable after-results, and I will indicate the precautions necessary in dealing with diseased tubes at a hysterectomy.

The most serious objection to leaving the ovaries is the possibility of their becoming the seat of tumour. I will presently speak of Littauer's case of blood cysts in an ovary removed about nine months after panhysterectomy. It is not clear that the tumour in this case was a true new growth; it was small and seemed to be made up of dropsical follicles full of blood and perhaps it would have atrophied if left alone. But Dr. Bantock removed in July, 1895, the uterus of a woman, aged 46 years, for cystic degeneration of the cervix, operating through the vagina. Both ovaries appeared to be perfectly healthy. Six years later the same operator removed from the patient an ovarian tumour weighing five and three-quarter pounds; it had strong pelvic adhesions. Thus we must remember that ovaries left behind may become subject to tumour. That this is not in itself sufficient reason for removing them with the uterus, I admit, for experience has shown that the development of an ovarian tumour after hysterectomy is very rare. In some cases where they have been detected after that operation they might have existed already and been overlooked by the surgeon. The specimen which I exhibit shows that a small cystic tumour of the ovary might be overlooked by a too speedy operator. In this instance a fibroid blocked the pelvis. I tied off the broad ligaments close to the uterine cornua and pushed them down at the beginning of the operation. The only portion of this ovary which was in sight seemed healthy. At the end of the operation I carefully inspected the relations of the stump and then I detected this ovary converted, as you see, into a cyst of some size concealed behind a coil of

[6] Howard Kelly (Operative Gynæcology, vol. ii., p. 370) advises that both ovaries be left in a subject under 40 years of age, "although menstruation ceases." He finds that a severe menopause is thus avoided.

[7] Referate über die Behandlung der Myome, Centralblatt für Gynäkologie, 1899, p. 616.

[8] Operative Gynæcology, vol. ii., p. 370. Let it be noted that Kelly finds that menstruation ceases though both ovaries be left (vide supra).

[9] Personal Observations concerning the Present Status of Gynæcology in Europe, American Medicine, Oct. 12th, 1901.

adherent intestine. It is easy to understand how a small tumour of this kind might be overlooked, especially in a case where the operator thinks it advisable to close the abdomen speedily. The answer to the fourth question is that leaving the ovaries may entail danger, but experience shows that the risk is not great.

In respect to the effect of removing or leaving the ovaries the question of previous hæmorrhage ought to be taken into account. With our present knowledge, however, I cannot see how we can draw any correct conclusions. Some women tolerate very little hæmorrhage, others seem almost the better for free bleeding going on for years. The cause of the menorrhagia is certainly not identical in all cases. Sudden cessation of the free bleeding of necessity occurs directly after hysterectomy, then there may or may not be some constitutional disturbance, but whether that disturbance be chiefly due to the sudden cessation of hæmorrhage or to the treatment of the ovaries we cannot determine with precision. As far as I can make out the patients reduced by long and severe hæmorrhages suffer nothing at all by their cessation whether the ovaries be left or removed. Dr. Crewdson Thomas, I find, does not tabulate "hæmorrhage" in his series. I fear that this dissertation on the ovaries has been very tedious. I have earnestly endeavoured to get at the truth and therefore I did not set to work at these researches with intent to prove that it is best to remove the ovaries, or that it is best to leave them, or that it matters little how we treat them. My results seem somewhat indefinite, but the indefinite may be the truth especially where there are so many complex factors to be taken into consideration.

FAMILY HISTORY OF FIBROIDS.

According to my own experience a family history of fibroids is more interesting than important. I find, like others, that a strong history is to be detected on inquiry in some families. In one remarkable instance the mother underwent hysterectomy for fibroid, while three daughters are subject to fibroid disease, in two it has remained stationary for several years, while in the third the tumour suddenly increased and I recently removed it. The mother's sister died from uterine cancer and so did a fourth daughter, whilst there remains a fifth from whom a fibroid polypus was removed; there is at present a small growth in the cervix. This solitary family history is of no value for general considerations about the relations of fibroid to carcinoma. I must note one family history which I mentioned in opening the discussion on the Natural History of Fibroids at the Ipswich meeting of the British Medical Association in 1900. There were three sisters, all single, and all between the ages of 30 and 40 years. In all, the fibroid was interstitial or partly subserous and there was but moderate menorrhagia. In two the tumour suddenly increased in size and I operated, with good results. In the third the tumour was the largest of the three six years ago; it remained stationary for four years and recently seems to have grown smaller and harder. Hence family history is not a sound guide to prognosis and treatment.

BLEEDING IN RELATION TO DIAGNOSIS OF UTERINE FIBROIDS.

Clinical experience has taught and proved that menorrhagia and intermenstrual hæmorrhage associated with a uterine tumour are strong evidence, should there be good reason to exclude cancer, that the new growth is a fibroid. A fibroid wholly subperitoneal does not cause hæmorrhage, whilst in the submucous variety bleeding is rarely if ever absent, and a little polypus is, as a rule, a source of relatively free hæmorrhage. The presence of a polypus or of submucous growths often accounts for menorrhagia when a large subserous fibroid is present. For evident reasons it is easy to overlook a polypus in many cases of uterine fibroid. In the days when ovaries were freely removed with a view to check the growth and bleeding of fibroids an overlooked polypus sometimes maintained hæmorrhage. The same after-history was not rare when the serre-nœud was applied in hysterectomy, for the cervix could not then be thoroughly explored, as is the case when the body is amputated by newer methods. In 1892 I had under my care a woman, aged 47 years, suffering from a cystic uterine fibroid of large dimensions.[10] I noted before operation "small pedunculated polypus of cervix." I removed the tumour with tubes and ovaries entire and applied the serre-nœud to the cervix without troubling about the polypus. For more than a year after the operation there was occasional discharge of blood from the os externum. Before the operation there had been no menstruation for six months.

In association with polypus the diagnosis of another tumour may be obscured. A polypus may be overlooked in a case of ovarian tumour closely connected with the uterus; then its bleeding may induce us to mistake the ovarian tumour for a cystic or solid fibroid of the uterus. On the other hand, a uterine polypus does not always cause bleeding.

One case in my experience where bleeding obscured diagnosis had a very instructive history. In the autumn of 1886 a woman, aged 39 years, was referred to me by Sir Spencer Wells. She had noticed for eight years a tumour which had increased in size very slowly. We were of opinion that it might be an ovarian growth, but that if uterine removal would be more dangerous than leaving it alone. The period was moderate. In September, 1886, I cautiously explored the tumour through a short incision. It had a dull-red capsule and, as far as could be made out by digital exploration, was absolutely incorporated with the uterus. In those days hysterectomy for large burrowing fibroids was attended with high mortality and we had in our minds Keith's observations about his first hysterectomy where a cystic fibroid was taken for an ovarian cyst.[11] I thought it best not to attempt the removal of the tumour. I kept the patient under close observation for many years as I was not quite certain about my own diagnosis. The girth of the abdomen increased until 1890 and then slowly decreased till the menopause in 1900. Dr. C. H. J. Lockyer, who saw her in the out-patient department of the Samaritan Hospital, noted that the menopause was preceded by severe hæmorrhage which lasted for six months. Then the tumour began to increase rapidly in size, so in November, 1901, I operated once more. The tumour was a burrowing multilocular cyst of the left ovary so closely associated with the back of the uterus that I removed that organ as well, leaving the right ovary. Strange to say, though I did so and though the menopause had been passed the patient had fresh menopause symptoms after convalescence. Dr. Lockyer carefully examined the parts removed and he found in the uterus a small polypus. This growth was in all probability the cause of the hæmorrhage; there had been no menorrhagia previously to the menopause though the tumour had existed for years, but the bleeding naturally suggested that the earlier diagnosis of uterine fibroid was correct.

Quite recently I removed a large ovarian cyst from a woman, aged 66 years; she had suffered from hæmorrhages suggesting cancer, but a polypus was detected and removed. Diagnosis was easy in this case but would have been otherwise had the cyst burrowed and come into very close connexion with the uterus. After all, we are all aware that a polypus causes bleeding and therefore, if overlooked when associated with a tumour which does not set up menorrhagia, no wonder we are puzzled. Dilatation of the cervix of a fibroid uterus in order to search for polypi is a dangerous procedure. But it must be remembered, I repeat, that a polypus sometimes does not cause bleeding.

I operated last year on a single woman, aged 46 years, who was suffering from a rapidly growing fibroid. The period was regular and always moderate and there was never any intermenstrual hæmorrhage. The tumour was a spherical myoma in the anterior wall of the uterus, undergoing mucoid degeneration. Dr. Lockyer, in examining the parts removed, found a pedunculated polypus one inch long in the uterine cavity, attached near the fundus. There was also a submucous polypus bigger than a pea. In short, there ought to have been hæmorrhage[12] if the fibroid had known how to conform to the most elementary text-book.

I have already referred to a case where a polypus in the stump of the cervix caused hæmorrhage. In a case reported by Doléris[13] the menorrhagia for which the fibroid had been removed only increased, until a year later when he operated once more and dissected a small interstitial fibroid out of the substance of the stump; the bleeding then ceased. We all know what a bleeding fibroid is and we are all acquainted

[10] Large Cystic Myoma of Uterus, with Notes on Cystic Fibroids, Transactions of the Royal Medical and Chirurgical Society, vol. lxxvi., 1893, p. 325 (After-history, p. 332).

[11] Contributions to the Surgical Treatment of Tumours of the Abdomen, Part I., p. 25 (Oliver and Boyd, 1885).

[12] The endometrium was smooth, pale, and healthy. Perhaps that condition partly accounted for the absence of hæmorrhage.

[13] Fibrome du Moignon après une Hystérectomie Abdominale Sub totale, Annales de Gynécologie et d'Obstétrique, vol. lvii. (1902), p. 154.

with fibroids that never bleed. I need not dwell on them as I have determined to limit my remarks to exceptional conditions in relation to hæmorrhage or its absence as a symptom.

ASCITES AND UTERINE FIBROID.

For some reason by no means evident ascites is rarely found in association with any form of uterine fibroid. In Keith's case[14] the complication developed after a fall, when the tumour was struck against a low railing. Butler-Smythe's patient was knocked down by a cart and much bruised on the abdomen, thighs, legs, and arms.[15] Symptoms of peritonitis followed; 18 pints of ascitic fluid were withdrawn three months after the accident. After four more tappings the fibroid was successfully removed. The tumour consisted of two subserous growths and there were numerous omental and intestinal adhesions. Thus in both these cases the free fluid collected in the abdomen as the result of an injury to a patient suffering from fibroid and not as a direct result of the tumour. Blows on the abdomen injuring a fibroid may set up other kinds of local mischief. An elderly patient of mine subject to this kind of tumour fell down a flight of stone steps and struck her abdomen. A soft mass developed in the interior part of the tumour with symptoms of peritonitis. An ugly swelling formed, the skin was glossy and injected, and I feared sarcomatous degeneration. I incised the swelling, which proved to be a suppurating hæmatoma, and much clot, followed by pus, came away. The swelling vanished; the tumour was small and gave no trouble.

I removed a fibroid uterus a year or two ago in a case where ascites was marked. In this instance there were about eight pints of free fluid in the abdomen, yet no history of any kind of injury. The tumour was a bulky, œdematous fibroid which had grown rapidly within six months of the operation and weighed 4 pounds 6 ounces. The omentum adhered strongly and its vessels were much dilated, whilst there was old-standing disease of the appendages. Recovery was rapid. There was no reason to suppose that the mere presence of the fibroid caused ascites in this case. Nor was it set up as the result of injury, but there was pelvic serous inflammation which extended higher. The ascites and the marked œdema of the tumour were probably two results of some common cause not easy to explain. There was inflammation of the appendages, a condition which does not tend to cause serous effusion. The relation of pelvic inflammation to fibroid tumours is another question which will presently be considered.

Howard Kelly goes so far as to state that ascites is a complication by no means rare in fibroid disease, if we take into consideration lesser as well as larger quantities of fluid.[16] He relates a case where he found nearly 12 pints in the abdomen; no history of any injury is given. Kelly states that "the cervix was jammed down on the pelvic floor by hard uterine tumours filling the pelvis." Perhaps œdema played a share in causing ascites. The cause of ascites, says Kelly, is not known and I think that we must agree with him. There was evidence of lymphatic obstruction in my own case, but this in itself can hardly cause ascites. In fibroid disease where free fluid is conspicuous for its rarity, marked obstruction of the lymphatics of the broad ligament is perhaps plainer to the eye than in the case of any other tumour, whilst in ovarian growths free from œdema and from dilatation of lymphatics in the adjoining broad ligament, ascites is not rare. Mechanical irritation cannot explain the rarity of the complication in question. Cannon-ball-like ovarian tumours (the exogenous cysts of pathologists) are often associated with ascites, but cannon-ball uterine fibroids (groups of subserous myomata) are often found in a perfectly dry peritoneal cavity. Let us remember that ovarian dermoids, which certainly cause mechanical and yet worse forms of irritation, are rarely complicated by ascites, whilst free fluid is proportionately common in true fibroma of the ovaries even where its surface is smooth.[17] Free papilloma is always associated with ascites.[18]

Infection cannot explain the rarity of ascites in fibroids, for septic changes in these tumours are not unknown, yet it is not recorded that they are complicated by ascites, whilst there was no evidence of infection of the tumour in any of the cases of ascites which I have just related. Septic changes are frequent in ovarian dermoids, yet, as in these uterine growths, it is rare to find them associated with dropsy. In short, the rarity of ascites in fibroid disease of the uterus remains unexplained and its cause in exceptional cases is obscure. I admit that true ascites and pure passive hydroperitoneum have not been carefully distinguished in clinical records, though ascites as a symptom in visceral disease was manifestly absent in the cases which I have brought forward. The subject deserves more attention from general pathologists and physicians.

ABSORPTION OF FIBROIDS.

In 1893 when preparing a monograph on this subject[19] I was able to discover about 50 relatively recent reports of which under 40 were worth consideration. Since that date we have heard little about "absorption" of fibroids until last summer when Professor Murdoch Cameron once more turned our attention to this subject.[20] "I can remember," said he, "quite a number of cases which were sent to me as fibroid tumours of the uterus, but which with rest and potassium iodide eventually disappeared. *These cases very closely resembled fibroid growths.*" This observation was the starting point of correspondence between Professor Cameron and myself.[21] He replied to my inquiries about the clinical symptoms of these cases, saying that "on examination an extensive hard swelling was found in each case behind the uterus and extending backwards to the sacrum. Its outline could not be defined." Professor Cameron suspects them to be inflammatory or traumatic in origin,[22] but adds that as there was no operation he could not give their pathological characters. He felt sure that they were not cases of impacted fibroid growths of the uterus and so he treated them with drugs and rest. The hard masses slowly disappeared. Though sure that the swellings were not "impacted" fibroids, Professor Cameron implies by the use of that term that they were fixed. No doubt some of the alleged cases of absorption of fibroids were really instances of disappearance of parametric exudation fixing the uterus; still, in others the uterus was reported as moveable. For my own part, I was never a great believer in reported cases of rapid "absorption" of fibroids. Putting aside shrinkage after necrosis, there seems to be no such thing as a "quiet" and molecular disintegration of a fibroid, the molecules being carried away by the blood-vessels and lymphatics and not discharged into the vagina.

Kleinwächter, Kidd, and John Phillips each report a case of disappearance of a fibroid after delivery. I collected these three cases and reported them in my monograph. Professor Cameron believes that it is the capsule, or rather the surrounding normal uterine tissue, that undergoes involution during the puerperium. He further declared that he "has never observed the absorption of the original growth which simply returned to about its original size." Many of us will agree with Professor Cameron who at least indicates a source of fallacy. Yet the three observers just mentioned are men of authority.

There remains another source of fallacy in respect to the absorption of fibroids after delivery. Might not the fibroid have been expelled in some instances during parturition and have been overlooked? Boissard[23] recently reported a case where the placenta came away spontaneously after a normal labour. It was preserved and examined by a midwives' class as a matter of routine. A fibroid polypus as big as a hen's egg was discovered about three inches from the edge, with its fundus firmly adherent to the chorion and its pedicle torn through. Thus a tumour as big as a hen's egg may be delivered unobserved with the placenta. Let us remember

[14] Contributions to the Surgical Treatment of Tumours of the Abdomen, part I., case 40, p. 96. The patient was tapped 44 times, a total of about 250 gallons being removed. The case was remarkable for many reasons and deserves study.

[15] Notes on a Case of Profuse Hydroperitoneum complicating Uterine Fibroids, Brit. Med. Jour., vol. ii., 1900, p. 1772.

[16] Operative Gynæcology, vol. ii., p. 901.

[17] See cases of Fibroma of the Ovary and Ovarian Ligament removed by Operation, Transactions of the Obstetrical Society of London, 1895, vol. xxxviii., p. 187.

[18] Even if not malignant, as in a case when the patient was alive and quite free from recurrence several years after I removed two enormous masses of papilloma springing from the broad ligaments. Pleural as well as peritoneal effusion occurred in the case of papilloma of the tube reported in Allbutt and Playfair's System of Gynæcology, p. 806; the patient was well 16 years after the operation.

[19] On the Absorption of Fibroid Tumours of the Uterus with a Report of a Suspected Case, Transactions of the Obstetrical Society of London, vol. xxxv. (1893), p. 250.

[20] The Past and Present Treatment of Uterine Fibroids, Brit. Med. Jour., Oct. 11th, 1902, p. 1153.

[21] Ibid., Oct. 18th (p. 1281) and 25th (p. 1372), 1902.

[22] Dr. J. A. Shaw-Mackenzie suggests that the tumours might have been inflammatory in Lancereaux and Legrain's cases, ibid., Nov. 8th, p. 1564.

[23] Délivrance et Fibrome, Bulletins de la Société d'Obstétrique de Paris. March 20th, 1902, p. 169.

that a submucous fibroid might be discharged in that manner, mistaken for part of the after-birth by a careless nurse, and then thrown away. A gynæcologist might have detected the tumour during or before the pregnancy. Supposing that he did not attend the labour yet had the opportunity of examining the patient after convalescence he would be liable to come to a false conclusion about the vanished fibroid. The disappearance of a correctly diagnosed fibroid may be the result of necrotic changes and in association with that complication I shall presently refer to a case related recently by Stouffs of Brussels where a necrotic fibroid was removed three months after delivery. Lastly, I believe, as I did in 1893, that destructive inflammatory processes account for the disappearance of fibroids in most cases where there was no pregnancy, and that this was clearly the explanation in my own case.[24] Mr. Skene Keith and Dr. Gerald Garry[25] are active supporters of electricity in the treatment of fibroids. Mr. Keith declares that he has seen more than 20 fibroids disappear after Apostoli's treatment. But Dr. Garry admits that out of 70 cases of uterine fibroids under his treatment he can report "but two in which the shrinkage almost amounted to disappearance." In one of the two the disappearance followed "a violent inflammation which lasted over three weeks," not due, according to Dr. Garry, to the treatment but to gross carelessness on the part of the patient.

Whilst rapid absorption is so doubtful there can be no doubt that many fibroids gradually vanish. The process which brings about this result is probably necrosis, or more strictly speaking, the aseptic necrobiosis not rare in fibroid tumours. The source of nutrition fails and the tumour softens and becomes infiltrated with fluid which disintegrates its fibres.[26] When extreme shrinking results the condition may be taken for absorption. The same change no doubt causes the disappearance of fibroids at the menopause, as is usual though not constant. Professor Cameron sees no reason why fibroids should not by some at present unknown means be made to disappear. Perhaps in some of the cases cured by drugs the tumour was really a fibro-myoma and necrosis was induced by the action of the drug. The same may be said of treatment by electricity. It is now advisable for us to consider this question of necrosis independent of diminution of the fibroid.

NECROTIC FIBROIDS.

Necrosis of a uterine fibroid is a change of great clinical interest. It is usually accompanied by distinct impairment of health, whilst the advent of anæmia in a case where menorrhagia is absent is, I find, very characteristic. Dull pain is felt in the pelvic region and the tumour is often tender to the touch. The temperature is usually, but not always, above normal and the pulse is quick and weak. On examination the tumour is found enlarged and softer than before the symptoms just described set in. Obscure fluctuation is often to be detected, no sloughing structure presents at the os externum, and the fornices are free. There is tenderness in the pelvic and hypogastric regions. Pathologically this change consists in a quiet death of the tissues without the agency of germs; infiltration of red fluid full of septic organisms sometimes observed is no doubt secondary. The tumour becomes infiltrated with fluid which softens and even breaks down its fibres; this infiltration is sometimes erroneously named "œdema"; it is ultimately followed by shrinkage of the mass. Thus, as I have remarked, many cases of rapid "absorption" were instances of shrinking necrotic tumours. The dead fibroid remains in its place; at least, for our present purpose I may be allowed to insist on that clinical limitation. For sloughing and expulsion into the vagina are not quite what we understand by necrosis. The same may be said of discharge of the growth through the abdominal walls after the development of abscess, as described by Olshausen, but I suspect that in some such cases there is first an injury,[27] then a suppurating hæmatoma develops, as in a case of my own, to which I referred when speaking of ascites after injury to a fibroid. An adjacent fibroid growth might easily loosen until it lay in the abscess. Olshausen considers that it is the capsule, not the tumour, that sloughs in such cases. In necrosis of a fibroid as a rule the capsule remains healthy, but the tumour sometimes discharges its substance into the vagina, as in Schmauch's case.[28] Perhaps it is advisable for us to find out what kills fibroids. Abuse of ergot has been given as a cause, and I think on reasonable grounds in some cases. In more than one instance under my observation electricity had been tried for the cure of the tumour, but I admit that it is difficult to determine cause and effect. Necrosis, it would appear, usually occurs when the patient's general health is impaired or when the tumour is badly placed for nutrition. General ill-health may unfavourably influence a fibroid hitherto innocuous, whilst a bleeding tumour, by impairing the general health, may insure its own destruction. Pregnancy without doubt may cause necrosis of a fibroid. Stouffs of Brussels[29] has recently reported a case where a subserous myoma was found to be necrotic when removed three months after delivery.[30] The patient complained that the tumour was tender, as was also observed in at least two instances of necrotic fibroid in my own practice, which I shall presently relate. This tenderness is of importance; it is remarkable how rare it is to find a uterus tender to touch, so unlike the appendages which bear handling badly even when only a little inflamed. Adhesions of intestine, rare in fibroid disease, could not very well cause necrosis, but in one case under my observation they were beginning to set up true septic changes in a fibroid already necrotic.

I have operated on several cases of necrotic fibroids, some of which deserve consideration. In two general malnutrition seemed to be the direct cause of the complication.

The first patient was a sickly neurotic single woman, aged 45 years. When 19 years of age she suffered severe shock in a railway accident and was laid up for 20 years. She never regained perfect power over the bladder. For two years the patient had menstruated freely, clots and membranes had been expelled about eight times during that space of time, but there were no exhausting hæmorrhages. The uterus rose to a few inches above the pubes and came down into the pelvis; it was tender to touch, especially below. The temperature was about 99° F. at night. I operated in November, 1901, sparing both ovaries. The tumour was a necrotic submucous fibroid in the posterior wall of the uterus; it weighed only 14 ounces but was very bulky. A year after the operation the patient was in good health; the period was represented by a little dark "show" every fortnight.

The second patient was a neurotic spinster, aged 29 years, subject to phthisis which had abated under suitable treatment a year previously when a fibroid was diagnosed. The tumour rose to about four inches above the pelvis. It became tender with rise of temperature. Then attacks of retention of urine set it. The period grew a little more copious than before for a reason detected after the operation. I operated in February, 1899, sparing the left ovary. The uterus contained a characteristic fibroid as big as a cocoa-nut, yet weighing only one pound one ounce; it was very soft and contained much semi-fluid yellowish material. A hard fibroid as big as a cob-nut projected under the mucous membrane immediately above the os internum and was doubtless the cause of the menorrhagia. The patient's general health was greatly improved a year later.

General malnutrition seemed to account for the necrosis of the tumour in these cases. The cause may in other instances be local, the tumour being placed so as to interfere with its own nutrition. I will relate a case of the kind when I come to speak of the "cup-and-ball" fibroid which fits closely into the pelvic cavity. The commonest cause of necrosis seems to be a combination and reaction of general and local influences—above all, hæmorrhage with its consequence, anæmia.

In 1897 I operated on a woman, aged 42 years, who had suffered for two years from severe menorrhagia and intermenstrual hæmorrhages and was extremely anæmic. There was rise of temperature at night, which may mean clot retained in the uterine cavities, inflammation of the

[24] Loc. cit. The patient had a fall and the abdomen was struck over the tumour. See also Schmauch's case of spontaneous morcellement (Mortifikation und Spontan-elimination eines grossen Myoma), Centralblatt für Gynäkologie, No. 45, 1902, p. 1217.

[25] Brit. Med. Jour., Nov. 8th, pp. 1564, 1565.

[26] Schmauch, loc. cit.

[27] Die Abdominalen Myom-Operationen. Veit, Handbuch de Gynäkologie, vol. ii., p. 748.

[28] Loc. cit. Note that in Schmauch's case there was anæmia without hæmorrhage and that the fragments of the necrotic fibroid were not septic; they recalled the aseptic intra-uterine maceration of a retained fœtus.

[29] Fibrome Utérin en voie de dégénérescence nécrobiotique post partum, Bulletin de la Société Belge de Gynécologie et d'Obstétrique, vol. xiii., 1902-03, p. 71.

[30] Some cases of alleged "absorption" of a fibroid after delivery may be explained this way. The necrotic tumour becomes softer and ceases to enlarge.

appendages, or, as in this case, necrosis. Both ovaries were removed as they showed signs of cystic degeneration. There was a big necrotic fibroid in the posterior wall of the uterus. The patient rapidly regained her health.

In several cases of multiple fibroids which I have removed where the patient was much reduced by menorrhagia some of the growths were necrotic.

Adhesion of intestine could not very well cause necrosis but might set up septic changes in a fibroid already necrotic. This was the case in a remarkable instance which I spoke about in association with the relations of the round ligament to fibroids. The growth in this case was so placed that its vascular supply was inadequate for its support and thus necrosis occurred. Adhesion of intestine caused more prejudicial changes. In no case could I trace necrosis of the fibroid to inflammatory disease of the ovaries and tubes. That complication did not exist in any of the cases above mentioned, whilst in none of the instances of inflammatory disease of the appendages presently to be related was there any necrosis of the fibroid. As long as the necrotic fibroid is removed so that the knife passes below it and none of its substance touches the peritoneum there is no special danger in operating upon it, nor are its semi-fluid contents always septic, so that if spilt during removal bad results do not always follow. But sometimes it is otherwise, and in the days when I used the serre-nœud I lost a case where some turbid fluid escaped into the peritoneal cavity during hysterectomy. Necrosis seemed due to general ill health in this instance. The fluid was certainly septic. In any case where general infection of the uterus is evident (as in removal of a fibroid uterus in the puerperium) panhysterectomy is indicated. In conclusion, it is clear that small necrotic fibroids cause more constitutional disturbance than a trifling amount of menorrhagia can account for. Such cases often justify hysterectomy when the fibroid is small, as it is a source of general ill health. The surgeon, however, must not urge the removal of a small fibroid on the plea that it may become necrotic.

CUP-AND-BALL FIBROID.

The term "cup-and-ball myoma" has been applied by Howard Kelly [31] to a globular fibroid tumour which fits more or less firmly into the pelvis. It is mainly of interest on account of the difficulty experienced by the operator in drawing it up, whilst the securing of the broad ligaments and uterine arteries is never easy when the fibroid is spherical and developed chiefly in the lower part of the uterus. The necessary manœuvring cannot be satisfactorily described in a lecture nor can it be performed by any fixed rule, as Kelly implies. The most accessible broad ligament must be tied and divided, then by traction towards the opposite side aided by more or less rotation the uterine artery is reached and ligatured at this stage; in many cases the tumour is free enough to be drawn up, so that the opposite broad ligament and after it the corresponding uterine artery may be secured, the cervix being divided last. Sometimes a corkscrew must be used to draw up the tumour. In most cases, however, Kelly's method of cutting through the cervix after the first uterine artery has been ligatured and divided, securing the other uterine artery, dividing it and ending this stage of the operation by tying and cutting through the remaining broad ligament, is easier than the more usual plan of working through both broad ligaments to the cervix. The latter is the better plan where there is a bulky vascular tumour in the fundus with a narrow cervix and wide broad ligaments easily reached below the morbid growth.

The cup-and-ball fibroid is, as the above remarks show, chiefly known for the difficulties which it offers to its removal. The most important question, as it directly concerns the patient's interest, is, Why should it be removed at all? The truth is that many fibroids of the body of the uterus pass through this cup-and-ball stage before they are detected by the patient or by the medical attendant. If the tumour be light and if it does not invade and therefore shorten the broad ligaments so as to impair its own mobility it will cause no inconvenience. Ultimately, when the patient is lying on one side or stooping, it will roll upwards above the pelvic brim and settle for good in the abdominal cavity. These cases are often seen in out-patient departments and in private; they largely make up the series of fibroids which can be pushed up with a clinical history of subsequent comfort or which can be kept up more or less by a pessary. Whether they grow larger after their ascension or give trouble through menorrhagia is not to the point. Not rarely, on the other hand, does the cup-and-ball fibroid give rise to special troubles in its vicinity, and it is one of the forms of uterine myoma that tends to arrest its own development by changes prejudicial to the patient's general health. A good example of necrotic changes in a cup-and-ball fibroid occurred this year in my own practice.

The patient was a single woman, 41 years of age. She was thin and anæmic, but hardly through loss of blood, as, though the "show" at period had increased during the past six months, it was not more profuse than is often seen in association with perfect health, and no bleeding ever occurred between the periods. Dr. F. J. McCann detected a tumour when she consulted him for fever and mucous vomiting which had continued for three weeks; there was also sharp pain in the hypogastrium and left iliac fossa sometimes set up by micturition. The upper part of the mass lay half-way between the pubes and the umbilicus. The cervix lay completely to the left of the lower part of the tumour which seemed to occupy the right fornix. I operated on March 13th. There were no adhesions and no evidence of inflammation external to the tumour, which was quite spherical. Its lower hemisphere fitted firmly into the pelvic cavity, whence it was extracted with difficulty. I succeeded in reaching the broad ligaments and saved the ovaries; the right was plump and bore a large corpus luteum, the left was flattened out by pressure and atrophied. After turning down an anterior peritoneal flap I managed to ligature the uterine vessels which lay in an awkward position between the prominent under surface of the tumour and the short cervix. The rest of the operation was easy. The tumour which I now exhibit (weight two pounds, two ounces) consists of the greater part of the body of the uterus with a spherical necrotic fibroid in its posterior wall. The degeneration was probably due to the position of the tumour, which prejudiced its nutrition, its lower part pressing against the broad ligament; the squeezing of the left ovary against the pelvic brim in part accounted for the pain, whilst the necrotic changes impaired the patient's health. She declared that she had felt very ill for some months before the tumour was removed, whilst seven months after the operation her general health was excellent. The majority of cases of small spherical fibroids lying in the pelvis neither get impacted nor necrotic, therefore the subject need not further detain us.

FIBROID UTERUS AND DISEASE OF APPENDAGES.

Oöphoritis, salpingitis, hydrosalpinx, pyosalpinx, as well as simple perimetric adhesions, may exist in association with uterine fibro-myoma. Inflammation of the tubes and ovaries cannot cause a fibroid to develop or if it can be shown to do so in some cases it is no essential cause. We often see appendages, perfectly healthy and innocent of any "pinx" or "itis," associated with every type of fibroid. On the other hand, inflammation of the appendages, puerperal, gonorrhœal, &c., may occur in a patient subject to this common form of uterine disease. Dr. C. J. Cullingworth [32] believes that the complication is always a coincidence. In 100 cases in his own practice salpingitis was not once met with, an experience which seems exceptional. He fails to see how a fibroid, except in the comparatively rare instance of its having become septic, can be directly responsible for a condition like salpingitis, which so far as we know at present is always the result of infection. We must all of us agree with the latter part of Dr. Cullingworth's argument—the statement that salpingitis is due to infection. Necrotic fibroids are often not septic, but on the other hand they not rarely contain germs. Still, in none of the cases of necrotic fibroids of which I have been speaking was there salpingitis, whilst in none of the cases of salpingitis (of which more will be said presently) was there necrosis of the fibroids.

Necrotic fibroids, then, as we learn from experience, do not necessarily infect appendages, whether they themselves be originally septic or free from germs. But Dr. Cullingworth implies that only a septic uterus can infect the tubes and ovaries previously healthy. I think that in some cases where there is disease of the appendages they have been infected, not by a septic uterus, but by septic germs pent up in the uterus. We often find in the uterine cavity an

[31] Loc. cit., vol. ii., p. 389.

[32] An Analysis of 100 Cases of Uterine Fibro-Myoma, Journal of Obstetrics and Gynæcology of the British Empire, vol. i., p. 26, last paragraph.

accumulation of sanious fluid and broken-down endometrium which cannot freely escape owing to obstruction near the os internum, but though these products of disease cannot get out germs may get in, perhaps introduced by the sound, as in a large class of cases which Matthews Duncan grouped under the common heading "chronic gynæcology." It is easy to understand how the tube might thus become infected by the contents of the uterine cavity. This probably occurred in a case of bilateral pyosalpinx which will presently be described. In some cases of pyosalpinx (which is often a primary disease as far as the tube is concerned) it is possible that a hydrosalpinx first developed and that its contents afterwards became purulent owing to infection from adherent intestine. This cannot always be the explanation—as, for instance, in three cases in my own operative practice where there was pyosalpinx without any adhesions. These cases and others induce me to believe that infection is often derived from the contents of the uterine cavity. I repeat that the tubes and ovaries remain quite healthy in a majority of cases, and so far my experience is more like that of Dr. Cullingworth than that of Twambly (Boston) and Lawson Tait who imply that this complication exists in 50 per cent. of all cases of fibroid.[33]

I need not dwell on numerous cases in my own experience where the ovaries were imbedded in soft perimetric adhesions and the tubes congested, if not inflamed. This condition does not demand their sacrifice. In six cases of uterine fibroid I encountered disease of the appendages sufficiently severe to increase appreciably the difficulties and dangers of an operation. Fortunately, no ill results followed in any case. In one the inflammatory disease was bilateral and severe, the fibroid was small, so that the appendages were removed and the uterus was left behind. In five hysterectomy was performed, and it is important to note that in three out of the five the inflammatory disease was unilateral and I was able to save one ovary.

The first patient was 47 years of age, subject for several years to menorrhagia and some hypogastric pain. There was a history of perimetritis after delivery when the patient was 22 years of age; since then she had never been pregnant and suffered from no pelvic symptoms. Dr. W. B. Addison of Thornton Heath detected fibroid enlargement of the uterus. I discovered a tender, tense, irregular mass behind an enlarged uterus and operated in November, 1897. I found bilateral hydrosalpinx with ovaries the seat of old inflammation. There were multiple adhesions of omentum to the bladder, uterus, and appendages. The fibroid growth was distinct but hardly rose above the pelvic brim. I removed the diseased tubes and ovaries without any trouble. In May, 1902, four and half years after the operation, Dr. Addison informed me that the patient was in perfect health and had never menstruated since her recovery. The fibroid seems to have remained stationary.

In one patient where I removed a bleeding fibroid over four pounds in weight there was a large pyosalpinx on the right side. I ligatured the right ovarian vessels and took away the dilated tube unemptied and attached with the ovary to the uterus. This is the right manœuvre whenever practicable. The left appendages, perfectly healthy, were saved. There was no feverish reaction during convalescence and the patient was quite well two years later.

In a second case I also discovered a pyosalpinx on one side (the left) and saved the opposite appendages, but owing to the shape of the uterine tumour I saw that it would be safer to take away the pyosalpinx separately, which I did without spilling any pus. Two years later the patient was in very good health.

The third case where I saved the appendages on one side was curious; the patient was a very anæmic woman, aged 41 years. She was delivered of her only child 24 years before the operation; necrosis of the tarsal bones of the right foot occurred during the puerperium and the foot was amputated. For six years she had been troubled with severe hæmorrhages and occasional attacks of pain and tenderness. When I examined her there were much pain and all the symptoms of pelvic peritonitis. There was pyosalpinx on the left side. I found that it was safer and easier to remove the diseased tube and ovary first and then the uterus was amputated, the right appendages being saved. Three years later the patient was in good health.

In the three cases just related there was pyosalpinx but there were no adhesions. The source of infection could hardly have been on the peritoneal side, as when an adherent hydrosalpinx suppurates. I suspect that in the third the infection might have arisen from decomposing material in the uterine cavity.

In two cases the disease was bilateral and both appendages had to be removed with the fibroid uterus.

The first patient was 38 years of age; she aborted about the fourth month four years before operation. For five months she had been laid up with severe abdominal pains when I operated and removed a bulky fibroid 4 pounds 12 ounces in weight. The tubes were diseased and the right ovary showed signs of early cystic degeneration. The cause of the inflammatory disease of the appendages was not clear. There were no adhesions, as in the three previous cases. Infection might well have arisen from the uterine cavity.

The second case has already been noted when I spoke of ascites associated with fibroid. The patient was 43 years of age and single, and I could not find out any cause for the chronic diseases of the appendages which, on the other hand, may have played a share in producing the ascites. In this case there were free omental adhesions to the right appendages and to the tumour. The patient remains in good health nearly two years after the operation.

The operator should never leave a suspicious tube behind; its cut surface is a source of germs and favours adhesions. The aspirator is advisable to empty an adherent pyosalpinx which cannot be detached and drawn up without fear of rupture. But when the dilated tube is free it is best to wrap it in sterilised gauze after separating it from the ligatured ovarian vessels and either to take it away unopened with the uterus or else to tie it in two places close to the uterine cornu and to cut between the ligatures and remove it separately with the ovary. Forceps should not be used for this purpose, as they will be contaminated by the pus, whilst as both uterus and tube have to come away the ligatures will do no harm. I think that I have said enough to show that inflammatory disease of the appendages is of sufficient frequency in cases of uterine fibroid to be taken into account both as regards the medical and surgical treatment of that complaint.

Having spoken of inflammatory disease of the ovaries a word or two on tumours in relation to uterine fibroids will not be out of place. A considerable number of cases of ovarian cyst coexistent with fibro-myoma of the uterus have been recorded.[34] But in the great majority of cases each of those forms of tumour exists by itself and it would be frivolous, in the face of clinical and pathological evidence, to attempt to make out that uterine fibroids are caused by ovarian cysts or that the cysts are the cause of the fibroids. Fibroma of the ovary is not a very rare disease and is independent of uterine fibroid; it is significant that in the few recorded cases of pure myoma of the ovary, including one where I was the operator and where the ovary was cystic, there was no new growth in the uterus, contrary to what might be expected. Malignant ovarian tumours also have no associations, save coincidence, with uterine fibroids. Lastly, no uniform change has been discovered in ovaries associated with uterine fibroids which could imply that it played any part in causing the development of the fibro-myoma. Several foreign authorities as well as Mr. A. Corrie Keep and myself have examined numerous ovaries associated with uterine fibroids. We have all come to the conclusion that any marked change seemed to be due to the pressure of the uterine tumour which may reduce the ovary to a flat ribbon, or to obstruction to the circulation in the ovary, which sometimes causes blood cysts to develop. I have found hæmatoliths[35] in ovaries associated with uterine fibroids and fibroid disease of the uterus existed in the case recorded by Hector Mackenzie,[36] the discoverer of ovarian hæmatoliths. Blood cysts, it may here be observed, have been detected by

[33] See Stanmore Bishop, "Uterine Fibro-myomata," p. 49. Twambly was speaking specially of interstitial fibroids.

[34] Mrs. Scharlieb (An Analysis of 100 Cases of Fibro-myomata Uteri, Journal of Obstetrics and Gynæcology of the British Empire, October, 1902, p. 330) detected cysts of one or both ovaries in 23 per cent. of these cases. The cysts must, however, have been in most of these cases dropsical follicles, or, as the authoress herself states, "changes due to interference with the pelvic circulation and with the nutrition of the ovaries by the fibroids." Experience shows that out of all cases of fibroid far less than a quarter have coincident cystic tumour properly so called.

[35] Blood Concretions in the Ovary, Transactions of the Obstetrical Society, vol. xl., 1898, p. 214. The specimen is in the Museum of the Royal College of Surgeons of England, Pathological Series, 4482, C.

[36] Blood Concretions in the Ovaries, Transactions of the Pathological Society of London, vol. xl., 1889, p. 215.

Olshausen and Littauer[37] in ovaries left behind after removal of the uterus; they seem to be a result of disturbance of circulation due to tying the uterine branch of the ovarian artery close to the cornu. They concern not the pathogenesis of fibroids but rather the treatment of the ovaries in hysterectomy which we have already considered. The changes seen in the ovaries in some instances may play a part in aggravating hæmorrhage or otherwise, but this question remains obscure.

LARGE VESSELS IN FIBROIDS: THE SOUFFLE.

The vessels in a large fibroid of old standing are often extremely dilated. Therefore a souffle may be heard on auscultation, which, of course, must not be confounded with the pulsations of the abdominal aorta audible through any solid tumour. In two quite recent cases the souffle was loud, transmitting in one a thrill to the palm of the hand placed on the surface of the tumour. In the other the sound as heard through the stethoscope simulated the souffle of pregnancy perfectly. The patient was a married woman, aged 30 years, but she had not been pregnant for ten years. She was extremely anæmic and much reduced in health from profuse floodings. The cervix was small and firm and for other reasons pregnancy was improbable, but I could well understand when I auscultated this case how in slightly different circumstances pregnancy might reasonably have been diagnosed. Thus the cervix might have been soft and a spherical outgrowth in the lower part of the tumour might have simulated a fœtal head. The tumour weighed over four pounds and the veins were enormous. One ovary was left, but the case is too recent for drawing any conclusions about the effects of the preservation of ovarian tissue. There have been no troublesome after-effects up to the present.

I have dwelt on the souffle, but not solely as a curiosity. It means that there are big vessels and their existence implies increased risk of the hysterectomy. A big vein should be carefully tied on its proximal side. Clamping, invaluable as a temporary resource in the course of the operation, inflicts much damage on the tissues immediately surrounding the vein. Hence it is better to avoid clamping a big engorged vein on its proximal side, or if that be actually necessary the vein should be ligatured below the clamp and the tissue bruised by the instrument carefully trimmed away. The ligature should never be stout. No. 2 silk will answer well for a vein. Careless clamping, needless handling of structures on the proximal side of the line of incision, and stout ligatures not only increase the chance of inflammatory exudation, parametric abscess, and intestinal adhesion, but when vessels are large these practices naturally promote thrombosis and embolism.

[37] Note on a Specimen of an Ovarian Growth removed after Vaginal Panhysterectomy, Centralblatt für Gynäkologie, No. 39, 1902, p. 1025.

An Address
ON
CERTAIN PRINCIPLES AND METHODS IN THE SURGERY OF THE PARALYSES OF CHILDREN.

Delivered before the Huddersfield Medical Society on Nov. 6th, 1902,

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MR. PRESIDENT AND GENTLEMEN,—The subject upon which I venture to address you is one which has interested me for many years and is well worthy of careful study. In these days, strange to say, when so much is written on every branch of medicine, the surgery of the paralyses of children has received but scant attention and that only in odd places and at odd times. There are many reasons suggestive of the explanation. To the general surgeon the subject presents many difficulties. It abounds in detail and demands a patience that only enthusiasm can supply. Operations, if they are performed, only attain their purpose when followed by prolonged, intelligent, and carefully thought-out after treatment, and this involves not only a practical knowledge of the sequence of events but a very real faith in certain fundamental principles. Short of this faith the surgeon is half-hearted in his measures and the patient and friends lose that confidence which inspires hope. The surgeon, therefore, should know the theory of his subject and be able definitely to direct practically the mechanical details which are the accompaniment of all operative aid. What would we think of a physician who, having made a diagnosis, leaves his unfortunate patient in the hands of a chemist who is asked to administer what he thinks to be an appropriate drug? And yet this is not a travesty but the grim experience of hundreds of paralytic cripples in this country. They pay their consultation fees and are then despatched to the instrument-maker who is merely desired in the most general terms to fit on a suitable "appliance." Is it any wonder, therefore, that quackery abounds and that the unfortunate patient is, so long as money lasts, relegated to suits of armour bristling with screws and ratchets? The treatment of paralytic deformities is both mechanical and operative. The one is inseparable from the other and the surgeon who is not a mechanic is little better than the old orthopædic surgeon who, without any operative education, looked upon a complicated splint as the universal panacea. To the late Mr. H. O. Thomas belongs the credit of having preached the gospel of simplicity as applied to splints. In paralytic affections his only implement was a tenotome and yet so skilful was he in mechanical resource that he rarely failed to rectify the most obstinate deformity. From him I learned the value of rest in restoring power to over-strained muscular fibre and the immense importance of postural prophylaxis in relation to deformity. Since his death many important advances have been made on the operative side but the mechanical principles he enunciated are in advance of much of the teaching of the present day.

ACUTE INFANTILE PARALYSIS.

I will deal first with certain aspects of acute infantile paralysis viewed chiefly from its clinical side. We all recognise the great importance of this subject, if only from the fact that next to rachitis it is the most prolific source of deformity, a deformity which never disappears spontaneously. Whenever we meet with a paralytic deformity with shortened muscle or diminished joint movement it can be safely assumed that, either from lack of knowledge or from neglect, a condition has arisen which could quite well have been avoided. Joint malposition due to muscle shortening or contracture arises from insufficiently opposed muscular action or from faulty posture due generally to the influence of gravity. Either condition the surgeon's art should easily enable him to prevent. Provided we know in any given case the etiology of its deformity we must not be content to meet it half-way but should endeavour to prevent it from ever making its appearance. In a completely paralysed arm the deformity to prevent is one of extension of the wrist and elbow and partial flexion of the fingers. At the ankle it is extension and inversion or eversion; at the knee flexion; at the hip flexion, often with external rotation. The causation of these deformities has been often discussed, but of one thing we may rest assured and that is that the action of antagonistic groups is neither the sole cause nor even the most important etiological factor. This is evident when we note that deformities occur when paralysis of all the muscular groups is complete, and, furthermore, that when paralysis is incomplete the shortened or contractured muscles are sometimes found to be the paralysed ones. We must, indeed, look upon several factors as instrumental in the production of paralytic deformities, such as gravity, body weight, the shape of articular facets, and, to a lesser degree, unbalanced muscular action. To take an example: if all the muscles governing the foot are paralysed and walking is not attempted the deformity will be precisely that which any foot assumes when left unconsciously hanging during anæsthesia—that is, an equino-varus, the fixation and muscle-shortening being quite secondary. If, however, walking has been the habit there will be an equino-valgus or calcaneus in response to superincumbent body weight applied in the one case to the inner side of the foot or in the other to the back of the heel. Similarly if crutches

have been used and the knee has been allowed to swing flexion is the result, which is the position naturally assumed by a limb whether paralysed or not which is left a mere pendant to the pelvis. If, however, the limb be used for walking other deformities may occur—hyper-extension or genu recurvatum if the body weight falls on the heel and genu valgum when the body weight is brought to bear upon an everted foot. And so every deformity is produced in a manner which can be easily ascertained when we examine the patient and his habits, and I emphasise the matter because of its prophylactic bearings. In the limb not completely paralysed contractions of the more powerful groups of muscles act very harmfully on their opponents, and it is the recognition of this fact which constitutes the keynote to both the mechanical and operative treatment.

In the past we have all been too much governed by the pathology of the affection to do justice to its clinical aspect. Because certain groups of muscles have barely responded to stimuli and have remained inactive it is too often assumed that this is due to cell destruction in the motor area. This assumption, if correct, would render useless any effort on the part of surgery. What we have to recollect, however, is that the cell destruction is not so extensive as would appear and that the affection, so far as the majority of the cells are concerned, is a transient and a recoverable one. We have no time to consider the many interesting points in connexion with pathology, more especially its infective origin, but we must not be led astray by any reports made on the cords of children dead months and years after the onset of the affection. At this stage many secondary changes have occurred and we have yet much to learn concerning the changes and degenerations of cells secondary to muscular desuetude. Careful and extensive investigation of the cords of subjects months and years after the loss of limbs, and similar experiments on growing animals, would throw an interesting sidelight upon the cell changes found in poliomyelitis of long standing. Let me take as an example paralytic wrist-drop. This deformity is of slow growth and when untreated is never recovered from. The principles governing its treatment are so little understood that at the present moment there are thousands with crippled useless hands who have received neither hope nor help from whomsoever they have consulted. And yet the majority of such deformities are most amenable to treatment and do not even require the knowledge which the practice of a speciality involves. Let me for a moment allude to cases in order to add clinical weight to my remarks.

CASE 1.—Some 15 years ago a youth, 19 years of age, came to me with loss of power in his arm and a typical wrist-drop. He gave the history of what he called a "tooth" stroke when he was two years old. He had no power of voluntarily extending his hand and the wrist could only be extended by the surgeon when he exercised considerable force; as the wrist became extended the fingers flexed. He had but slight movement of the fingers, just enough to enable him to hold a stick while the wrist was acutely flexed. For reasons which I will explain later I was able to tell him that even at this period, 17 years after the onset of the affection, his hand could be made quite useful. In less than two years he was able to flex and to extend his wrist and to perform movements of considerable nicety with his fingers.

CASE 2.—A young woman, 23 years of age, who had been the subject of poliomyelitis 20 years previously, presented herself with a contracted hand which could only be extended by moderate force. When forcible extension was adopted the wrist could only be extended by permitting flexion of the fingers. Advice had been sought from several neurologists and massage and the battery had been unanimously recommended. For some years all treatment had been discarded and the only attention paid to the hand by the patient was in endeavouring to keep it out of sight. After carefully examining the muscles I assured her that treatment would ultimately prove very satisfactory. Again, in less than 18 months she was enabled slowly but with considerable precision to flex and to extend her wrist and to move her fingers separately.

It is needless to multiply cases, but to many of us such results would seem incredible until the explanation in all its simplicity were vouchsafed. These two cases had remained untreated because muscles powerless from desuetude were mistaken for muscles paralysed from cell destruction. To begin with, perhaps the whole arm was paralysed; then the strong group of flexors recovered; later the extensors. The flexors, however, having first got well, overpowered the extensors and, aided by gravity, became shortened or contractured while the extensors were stretched out and lengthened. This, then, is the secret of the prolonged disability—a group of muscles placed at mechanical disadvantage had become impotent from desuetude. Well, then, how is the surgeon to know the case where he can assuredly, as I did, give a confident prognosis? The test is simple. He asks the patient to move his fingers in the direction of extension. The patient says he cannot. The surgeon then grasps his wrist and still further forcibly flexes it. The patient is then asked to extend his fingers from their new position. If he succeed ever so little a favourable prognosis may be given. Should he fail then treatment is of no avail. The treatment is based upon Thomas's theory of muscle shortening and consists in a recognition of the mechanical principles governing the production of contractures. In the paralytic wrist one group of muscles is lengthened and another is shortened by posture and treatment must be directed to the reversal of these conditions. In other words, we must slowly stretch and lengthen the flexors and place the extensors in such a position that their structural shortening will ensue. There is no opportunity at present to enter fully into methods, but when I state that the wrist and fingers must be placed in hyper-extension for very many months the principles of treatment will be sufficiently appreciated. The test of recovery consists in the power of the patient voluntarily to extend his fingers from the splint upon which his hand rests. I have dwelt at some length on this aspect of the question because the principle underlying it has received but scant allegiance and furthermore because it influences our every effort whatever joint or limb be affected. We must not attempt to treat a weakened set of muscles without first rescuing them from being overstretched and we must carefully note that we can but restore to action elongated muscles by maintaining them in a slackened posture. There are many analogies in confirmation to which I could draw your attention, but I will confine myself to the consideration of only one or two. We all know that congenital club-foot is not a paralytic affection; we are also conscious that apparently after treatment has resulted in rectification a so-called recurrence is frequently chronicled. Why should that be? I am quite sure that I can give you the explanation. It is due entirely to the fact that the extensor muscles have not sufficiently recovered to resist the action of gravity—in other words, the patient is unable to hold the foot at right angles. A recurrence, therefore, merely means the formation of a paralytic deformity exactly as it occurs in poliomyelitis where the extensors of the toe are affected. It can be prevented by keeping the foot over-corrected until the extensor muscles have, as the nautical expression goes, "taken in their slack." When a talipedic foot can be voluntarily raised to above a right angle a recurrence cannot possibly occur. Here, then, is an admirable confirmation in a non-paralytic case of impotence from desuetude. You will note, therefore, that we have clinical data which will enable us to say whether or not a paralytic drop-wrist is recoverable, and we know that the severity of the contractions and the duration of the disease do not contra-indicate a favourable prognosis. As an aid to prognosis we may note that the structural shortening of the flexors is a more serious impediment to recovery than the long duration of the disability.

In illustration of the value of preventing a pull upon paralysed muscle, you may be interested in an experiment which I made some months ago. A relative in whom I was much interested was attacked by paralysis of the facial nerve, probably due to effusion into its sheath. For several weeks only a slight improvement was manifest. I therefore fixed on his face an apparatus so designed as to draw the angle of his mouth on the paralysed side well up towards the ear. In less than a fortnight he had so far recovered as to be able to dispense with it, feeling very grateful for its manifest help. A similar instrument tried upon a second case when the paralysis had lasted four months with but little abatement, acted almost as a charm and was worn for a month—only because the patient feared a recurrence from too prematurely discarding it.

An interesting confirmation of this principle occurred in two cases of paralysis of the shoulder girdle when all the muscles above those governing the hand were affected. The arm lay helplessly by the side and even the hand responded but imperfectly to the will. The elbow was flail-like and quite uncontrolled by any group of muscles. Such an arm is

obviously of but little use to a patient, having to be lifted by the opposite arm. It struck me that it would be advisable if possible permanently to fix the arm at an angle so calculated that the hand might be brought into contact with the face and neck. Arthrodesis of the elbow I knew to be an unsatisfactory operation and I decided, therefore, to make the fixation by means of skin incisions. The arm was first brought to an angle of 45 degrees, and I judged by the relative position of the arm to the forearm how large a piece of skin it was necessary to remove. The elbow was next extended and a diamond-shaped incision was mapped out and the skin removed. The upper angle of the wound was next attached to the lower and the bare surface of the lower triangle lay in juxtaposition to that of the upper triangle. A scar was thus formed sufficiently firm to hold the elbow flexed. In two out of seven cases which I operated upon interesting phenomena followed. Paralysis was thought to be complete in the biceps and brachialis anticus, but some months after the arm was flexed flexion power was restored to the elbow. This power was brought about by the postural release from strain cast upon the muscles and still further elucidates the question we are discussing.

I trust that I have been able to impress upon you the importance of not confusing muscles which for years have been useless with muscles which are positively paralysed. It is this confusion which has hindered both physician and surgeon from accurately gauging in these cases the potentialities of recovery. Treatment must be obviously conducted with a view of preventing, or of correcting, structural shortening of muscular groups. This in the hand generally means hyper-extension of the wrist, in the elbow flexion, and in the knee extension and a rectangular fixation of the ankle.

TENDON TRANSPLANTATION.

Considerable assistance has been afforded to paralytic children by the recent introduction of tendon transplantation and the revival of arthrodesis. Tendon grafting consists in attaching a healthy tendon either to a paralysed one or to the periosteum and, so to speak, changing the sphere of its action. It is quite a mystery how an amicable arrangement between mind and muscle is brought about, for a muscle hitherto directed to evert the foot is now asked to invert it and by the intervention of some law of adaptation it obeys. What interesting possibilities in connexion with the nervous system this suggests. Already I have operated upon over 50 cases and without entering into any details it may be interesting to chronicle my experiences.

The operation in my hands has been most successful where one muscles or one group of muscles has been paralysed. This is exemplified in paralysis of the peronei or of the tibiales. In one case reinforcement comes from the extensor proprius pollicis and tendo Achillis; in the other from part of the tibialis anticus and again the tendo Achillis. Transplanting the peroneus longus into the tibialis posticus or the converse is sometimes disappointing because of adhesions by the way and the angular direction which the healthy muscle is forced to take. The operation should not be performed with the object of strengthening partially paralysed muscles or muscles weakened by elongation. In such cases our opportunity comes for testing the value of what I have stated regarding the mechanism of shortened muscles If any operation be called for, lengthening of the shortened tendons and shortening of the lengthened ones are clearly indicated. Again, in flail-like joints tendon splicing is of no avail, because superincumbent body weight is too fatal an antagonist. Another most important point is to employ the nearest available tendon, if it be sufficiently strong, rather than one from a distance, and, where it is possible, the selection should be made of a reinforcing muscle the line of which is parallel to the reinforced. Take, for instance, a talipes calcaneus where we would by preference strengthen it by the aid of the peronei, or in paralytic valgus where we can with advantage command the services of the extensor proprius pollicis. In analysing my failures I ascribe perhaps the principal share to a want of success in preventing the reinforcing tendon from taking a tortuous route. Another cause of failure may be avoided if the operator makes a point of completely correcting—or, better, even over-correcting—a deformity before transplantation is performed. For instance, a girl walks with paralytic valgus and has done so for years. The foot cannot be placed in inversion without the application of great force. If transplantation of a slip of the Achilles tendon is to be effective the foot must first of all be kept inverted by mechanism until all strain on the inner aspect of the foot has been removed. I would further urge that if tendon is to be spliced by tendon let it be done as near its insertion as practicable so as to avoid as much as possible a yielding of the paralysed section which we know is apt to occur. Whenever the tendon can be transplanted into periosteum I am convinced it should be done, care being taken to secure a really firm hold of the tissue. When attached to tendon a neat splice should be done; many failures are due to clumsy bulky excrescences which encourage adhesions and otherwise obstruct the easy gliding of the tendon. Finally, the proximal part of the reinforcing tendon should be fixed into the paralysed tendon, so that it be maintained as tense as possible, otherwise we have to face the problem of a slack tendon which cannot do its work.

If these practical points be remembered by surgeons and a watchful eye kept upon the first attempts at walking in order that body weight be correctly exercised on the tarsus, tendon transplantation cannot fail of a good and lasting reputation.

ARTHRODESIS.

There is another class of case which has interested me greatly—I allude to those paralytic patients with joints either hopelessly flail-like or sufficiently so as to demand unceasing mechanical attention. The difficulty and expense connected with the purely mechanical treatment of these cases, extending as it does over the whole of a lifetime, are an effective barrier to the poor of our cities. The recognition of this fact induced me to urge at the meeting of the British Medical Association of 1894 a revival and extension of operative procedures which for years had remained in abeyance. I allude to the operation of arthrodesis which aims at transforming a flail limb into a member as rigid as the splint which it is desired to discard. In a large majority of the so-called paralyses of the lower limb the psoas and iliacus muscles are unaffected and all mechanical means are therefore based, if they are to be of real use, upon the integrity of the muscles. The knee and ankle are kept fixed and the psoas muscle is destined to carry the leg, splint and all. In consequence these weakly paralytic patients easily tire of the weight of their supports and therefore lose the opportunity which presents to strengthen their only pair of muscles of progression.

The operation consists in opening the joint with a sharp gouge peeling the cartilage off the whole articulation in the case of the ankle, and gouging the bone in the case of the knee, keeping the joint completely at rest for some weeks subsequently and for a long period fitting the limb with a simple apparatus which will enable the patient to walk without throwing a strain upon the newly-fixed joints An excision is more than the case requires and involves a greater sacrifice of tissue than an already shortened limb can spare. To expose the knee I make an incision across the front of the joint, covering fully half its circumference, and curved so as to pass below the lower end of the patella. The flap is turned up and all the vessels are ligatured. I next remove the semilunar cartilages and with a sharp, short-bladed knife or gouge peel away the cartilages and the underlying layer of bone, so as to leave a raw surface over the whole of their extent. The crucial ligaments I generally leave intact. The structures are then carefully reunited by deep and superficial sutures, no drainage-tube of course is employed, and the wound is well covered with sterilised absorbent wadding.

The operation may be carried out in the ankle-joint in one of two ways, according to the circumstances of the case. In old cases where the foot is deformed and assumes the equino-varus variety the astragalus is well to the front. In such I force the foot into a position of extreme equino-varus and make an incision in front of the external malleolus following the line of the ankle-joint and dividing all structures down to the astragalus, generally only severing the peroneus tertius tendon. The other tendons are held aside and the articulating surface of the astragalus is exposed. With a gouge or knife several grooved portions of the articulating cartilage are removed. If complete bony ankylosis of the ankle be desired it will be necessary to gouge bone. If a fibrous ankylosis be wished it will be sufficient to peel off parts of the cartilage. The ankle is kept extended while some pieces of the articulating surfaces of the tibia and fibula are removed. A few vessels are tied, the foot is placed in its normal relation to the leg, and a suture or two close the wound. A pad of wood-wool tissue is applied over all and this being firmly bandaged the procedure is complete. In other cases the astragalus is more easily approached from

behind and in such the foot is firmly flexed on the leg and an incision down to the bone is made along the external border of the tendo Achillis. The posterior ligament is now freely divided and the gouging takes place as in the former operation. No serious mishap has occurred in any of my series of over 100 cases. Every wound but three has healed by first intention; and, contrary to expectation, those cases where trophic changes were most marked healed as readily as those whose nutritive conditions were nearer normal.

In talipes calcaneus where the paralysis is not complete, a deformity often accompanied by pes cavus and for which Willett's operation of shortening the tendo Achillis is performed, I recommend a modified arthrodesis. It gives distinctly satisfactory results. Willett's operation is rarely successful, for the moment we try to put a weakened tendo Achillis shortened by operation against body weight exercised during locomotion it can only have one result and that is a fresh and speedy yielding of the tendon. If, however, Willett's operation, *plus* exsection of cartilage, be performed we shall obtain considerably better results, for on opening the joint from behind we can shorten the tendo Achillis and remove sufficient cartilage to limit the action of the ankle to about 20 degrees. The same procedure may with benefit be applied where in addition to an elongated heel tendon the tibiales have been completely paralysed, producing a deformity of calcaneo-valgus with difficulty rectified manually. I may mention in connexion with arthrodesis of the ankle that one sometimes fails in young children to secure sufficient fixation, and for some months I have removed the upper half of the astragalus and the inner malleolus of the tibia so that the tibia may fall with greater stability on a good square surface. The result is very satisfactory and in a completely flail-like ankle is, I think, more suitable than the recent operation described by Whitman of New York of complete removal of the astragalus, an operation I have performed on four occasions.

Before leaving the subject of poliomyelitis I would desire to draw attention to another class of paralytic patients who are the subject of fixed deformities. The hips are flexed and so are the knees, while the ankle is generally extended. If the little patient be made to lie down marked lordosis of the spine occurs. There has never been any attempt at walking, save perhaps a swinging, crutch-supported gait. Power may be found in one sartorius and in one psoas muscle. Can such a case be made to walk and, if so, how? If we determine to try we will first divide each tendo Achillis and place the ankles in rectangular splints. We will next exsect a V-shaped wedge from each flexed knee, the wedge being sufficiency large to allow of the easy extension of the limbs. For a few weeks the limbs are retained in this position and a splint similar to a double Thomas's hip is prepared. The correction of the hip deformities must next be commenced. This must be prosecuted very vigorously. Of all flexion deformities paralytic flexion of the hip is most intractable and generally the shortened structures are on the outer side of the thighs. A bold incision must be made and the fascia and every constricting band divided freely until several degrees of flexion are overcome. The patient is then kept upon his double Thomas's splint and for weeks if necessary until the lordosis disappears. This is not assisted by recourse to femoral osteotomy, an operation of very little use in paralytic hip. As soon as the back is straight we place a pair of calliper splints on the little patient and crutch-aided let him learn to walk. I know of no sensation more delightful to myself as a surgeon than that I experience when I see one of these crawling little cripples standing erect before me.

Time will not allow me to delay longer over spinal paralysis and I have therefore given you but a brief practical *résumé* of surgical methods as they appeal to me, endeavouring to enunciate principles in regard to the behaviour of muscles which must always influence, and sometimes govern, us in the line of treatment we adopt.

ON CEREBRAL PARALYSIS OF THE SPASTIC TYPE.

From spinal to cerebral paralysis is not a long step and yet what a different field it is to explore. The patient in a spinal case is generally bright and happy, entering into the spirit of our treatment often with intelligent appreciation, while in a cerebral case he is uninviting, irritable, and almost always dull, perhaps the most neglected object within the radius of our art. In the short period still at our disposal I desire to point out certain lines of treatment which offer us great encouragement to persevere in our efforts on the behalf of such patients. This year I have already written on the spastic type of palsy and I must beg your kind indulgence while I repeat the conclusions forced upon me in the consideration of a large number cases. Although it is quite impossible to discuss fully so complex a subject as cerebral paralysis I should like to indicate certain types of the affection where surgery may with advantage be employed. For descriptive purposes cases may be grouped under three headings: (1) infantile hemiplegia; (2) cerebral diplegia; and (3) spastic paraplegia. My own experience would lead me to the conclusion that cerebral diplegia is the commonest group, but of 859 cases which I have collected from various sources 510 were hemiplegic, 30 were monoplegic, 142 were paraplegic, and 157 were diplegic. The diplegic and paraplegic groups are congenital affections whilst infantile hemiplegia is usually acquired. Infantile hemiplegia generally appears before the fourth year and is most commonly preceded by convulsions and by acute febrile symptoms, markedly in contrast to the advent of adult hemiplegia. The deformities are of very rapid growth. The arm and leg are powerless and the reflexes are exaggerated. The foot is arched and adducted, the knee is bent, the hip is rotated inwards, and the femur is flexed. The arm clings to the body, the elbow is flexed to a right angle, the wrist is dropped, the hand being pronated and deviating to the ulnar side, while the fingers tightly grasp an adducted thumb. Rigidity comes on nearly always and is increased on passive movement or when the child attempts to move. The aphasia is motor and accompanies either right or left hemiplegia. Inequality of growth is the rule, but while the leg hardly ever shortens more than an inch it is not uncommon to note three inches of difference in the arms. From the point of view of treatment the following facts may prove useful if remembered: (1) The arm is more permanently and severely affected than the leg; (2) movements are performed spasmodically, slowly, and without precision; and (3) the power of dorsiflexion of the hand with simultaneous extension of the fingers is lost and usually the hand has no adduction power. In the lower limb general rigidity is accompanied by extension of the foot, contraction of the knee, and flexion and adduction of the hip.

The cerebral diplegic group is far and away the most serious condition to treat. We have here, of course, to deal with both arms and feet. Unless the hands can be used the surgeon is deprived of his chief allies in the treatment of the limbs. Where the spasm is confined to the limbs alone we give the name of "spastic paraplegia," or "Little's disease." The vast majority even of these cases present mental deficiencies of varying extent and in a considerable minority athetotic movements are also noted.

A severe case of spastic paraplegia brought to the surgeon at the age, say, of 12 months is characteristic. Usually contractions have occurred at the hip or knee; the child's legs are rigid, the toes point down, there is usually no internal rotation, and adduction is not sufficiently severe to cause a crossing of the limbs. The reflexes are exaggerated, the patellar reflex not usually causing a knee-jerk but a leg-jerk. If the little patient is held by his arms there is no endeavour to separate the limbs, and should the toes be brought to the ground and an effort made by the child to walk both limbs move synchronously and in parallel lines. When passive separation of the limbs is made, although it is easily effected, one can see and feel the antagonistic efforts of the powerful adductors. If at a later stage the patient is able to walk several changes will be noted. The adduction will be more marked, the scissors-walk will have developed, and a characteristic dragging of one knee round the other will be noted, which becomes more pronounced when any attempt at running is made. The body pressure is mainly transmitted to the ball of the toe. These contractures, however, at this stage are generally spasmodic and there is no appreciable shortening in muscle length. This shortening occurs at a still later stage and is known as contracture. In quite a number of cases the patients are in a hopeless position as far as walking is concerned. Any effort they make to move only serves to throw the muscles into violent contractions and the legs into extreme adduction. The most severe type of contractions in the legs may be associated with but very slight mental defects and unaccompanied by diplegia.

Before discussing treatment I will briefly touch upon the pathology of spasmodic paralysis, if only to suggest how futile are operative procedures directed to the primary

lesion. The pathological conditions in hemiplegia, paraplegia, and diplegia are the same in kind. The symptoms are due to the retardation of growth resulting generally from embolism or thrombosis, together with changes in the spinal cord. In later cases one finds wasting and sclerosis of the motor tracts with often a loss of substance in the form of cavities or cysts known as porencephalus. These cysts occur on the surface of the brain and sometimes dip fairly deep into it. They seem to be a late result in a growing brain and to have produced an extensive scar substitute for cerebral tissue. Should the porencephalus or sclerosis be unilateral hemiplegia results. If the scar is bilateral diplegia or spastic paralysis results. The lesions therefore are a late product of a hæmorrhage, an embolism, or localised encephalitis. In the cord degenerations of the pyramidal tract or of the lateral columns are to be found.

The treatment of spastic paralysis has been too solely in the hands of the physician for much real progress to have been made. Indeed, from medicine in this affection we have but little to expect apart from very indirect results, and we have only to scan the text-books on neurology to realise the note of pessimism which is sounded. I would argue that a large proportion of children suffering from severe spastic paralysis may be transformed into useful members of the community, improved both in body and mind by surgical efforts, enabled to walk with comparatively little deformity, and generally only requiring the aid to be derived from one or two sticks.

We must place in a group outside remedial art the idiot, the microcephalic, and that violent irritable type of diplegic, so often seen, subject to fits and active athetotic moments who has generally lost all control over his secretions. The treatment of any condition short of this may be undertaken with varying success subject to conditions which obtain in any surgical case requiring prolonged attention. For instance, active treatment may be required for two years. It would therefore be unwise to admit a case into hospital for two months and then to send it to a miserable home where neglect would be sure to follow. Such a case, however, after hospital treatment, happy in the care of anxious, intelligent parents, no matter how poor, would prove a credit to all concerned. Another class which gives the greatest anxiety and trouble is that where the affection of the hands is of such a kind as to promise but slight hope of their assistance to the limbs during walking. Before despairing, however, I think it is well to give such hands the opportunity of a careful trial, both as a mental discipline and because success sometimes exceeds expectation. I would divide the treatment of all cases of spastic paralysis into operative and post-operative, for although mechanism is involved in nearly every case there is only an insignificant minority which we are called upon to treat without invoking operative aid.

The treatment of the hand and arm in infantile hemiplegia is distinctly less promising than in the diplegic case, but there are clinical signs to which I would draw your attention which help us to predict either success or failure. If the paralysis is complete, or in other words, if the little patient is never known to relax his spasm, treatment is futile. If he only moves the fingers of his affected hand in conjunction with the fingers of the opposite side the results will in all probability be discouraging. In all cases where the parents are able to say in the spirit of true observers that the patient is able to do more with the hand now than a little while ago the success of treatment is assured. Similarly, where any degree of voluntary relaxation of spasm exists apart from an associated movement on the opposite side treatment is emphatically indicated.

Noting that the dominant deformities in both hand and elbow are pronation and carpal flexion, treatment should consist in fixing the elbow supine and hyper extending the wrist. The hyper-extension of the wrist should be combined with that of the fingers and a special arrangement should be adapted to keep the thumb at right angles to the palm. The spasm in these cases is often so pronounced that the extension of the wrist and fingers must be brought about very gradually. If the elbow is affected by contraction of the biceps and brachialis anticus, supination may be combined with extension. If this be not the case the flexed position of the elbow will suffice. If, instead of being firmly pronated, the elbow lies semi-prone it is not necessary to treat it and all one's energies should be directed to the hands. If the hemiplegic hand spasm is mild this treatment may be discarded in about 12 months, provided that during the whole of this period the extension has been kept up without intermission. The test for relaxation must be the power of voluntary movement, however slow it may be. It will be noted that generally at this stage the patient in endeavouring to extend his wrist will first of all close his fingers and will only open them on completion of extension. The process is reversed when the wrist is flexed. In order to meet this difficulty the splint employed to extend both wrist and fingers is modified so as to extend the wrist alone and to allow freedom to the fingers.

It is difficult to give a reason as to how improvement comes about, but it may be taken as an axiom that prolonged fixation of spastic muscles in a position opposed to their contraction lessens the severity of their spasm. This is true wherever spasm may be found and its influence may be tested even in spasmodic torticollis, intractable as we know that affection to be. It would appear as if the group of muscles at last got tired of trying to pull. At this stage or earlier the surgeon may decide whether in a given case success may be predicated, and, if he is in doubt, operation should unhesitatingly be performed. Operation will consist of tenotomy or tendon transplantation. An incision is made over the tendon of the flexor carpi ulnaris just above the annular ligament, another is made over the flexor carpi radialis, and both tendons are divided low down and are taken—(1) the flexor ulnaris to be inserted into the extensor ulnaris and (2) the radial flexor into the radial extensor. I performed this operation some time ago upon two spastic children, whom I showed to the members of the Society for the Study of Disease in Children, and in both instances voluntary movements were steadily performed, and one, a girl, seven years of age, was able to write quite a respectable hand. My friend Mr. A. H. Tubby, in order to overcome the spasmodic pronation of the forearm, has changed the point of insertion from the front to the back of the radius of the pronator radii teres and has succeeded in transforming the muscle into a supinator.

Tenotomy alone has proved somewhat disappointing though one has had an occasional successful case. The operation should be confined to the division of the flexor carpi radialis and ulnaris. It is, in my opinion, better to elongate the other flexors of the hand by a long median incision such as one would employ in lengthening the tendo Achillis. Tendon transplantation, however, is a better operation, less complicated and more reliable. The surgeon's art does not end with the operation and hyper-extension of the wrist, leaving the fingers free, should be practised for a further few weeks. In order to prevent adhesions after the operation the wrist should be freely but very gently withal moved in about a fortnight's time. Whether an operation has been performed or not the final stages of treatment are identical. They should consist in getting both guardian and patient to strive every nerve to urge and to practise movements from simple to complex. The nature of the movements to be practised must be left to the ingenuity of the surgeon. The principle which should govern him may, however, be here indicated. (1) The movements should be practised slowly and without excitement; (2) they should be made interesting to the child; (3) those opposed to the direction of the deformity should predominate; and (4) those presenting the greatest difficulty should be chiefly practised.

Just a word, before we deal with paraplegia, regarding tenotomy of the spastic muscle. Empiricism has taught us that for some reason or other tenotomy lessens both in frequency and intensity the spasmodic element in paraplegia. I do not merely mean to say that division of the tendo Achillis controls spasm in the calf muscles, although of course it does, but rather that spasm in which those muscles are not directly concerned is also influenced. This is beyond all question and must have been noted by everybody who has had the opportunity of observing, and the fact has now reached the robust stage when physiological explanations are vouchsafed. Whitman urges that by elongation of the tendon the response to the exaggerated motor impulses is lessened and an opportunity for more effective control is afforded. Discussing the question with Mr. Tubby he propounded the theory that once the immediate pathological effect of the central nervous lesion had subsided the spinal cord remains in a state of undue reflex excitability. A tightly contracted muscle and tendon tend to augment this condition and so induce in themselves further contractions. In other words there is a vicious circle of reflex action which can be interrupted by section of the tendon and diminution of the tension of the affected muscle and tendon. Lorenz attributes the

effect to the shortening of the muscular portion of the tenotomised muscles so that their range of action is diminished. Both these theories, of course, refer to spasm in which the divided muscle is concerned and do not explain the diminution in spasm experienced elsewhere. We must, further, remember that the opponents of contracted muscles are always elongated and weak and that the rest afforded them by tenotomies by relieving them of strain helps to restore muscular equilibrium.

The practical deduction from these observations is that no opportunity should be lost of performing a tenotomy. Even in mild cases where a spastic tendon is to be felt we need have no hesitation in dividing it. If the surgeon has decided that a case of spastic paralysis is suitable for treatment a splint should be prepared so designed as to keep the limbs in pronounced abduction. The area over the hamstrings, the adductors at the groin, and the tendo Achillis should be suitably prepared for operation. The adductors should be first attacked. An incision an inch or two long should be made to the inside of the adductor longus. This muscle should be seized by a forceps and about three-quarters of an inch of it removed. The limb is then abducted and portions of the adductor brevis and gracilis are exsected in similar fashion. The horizontal portion of the adductor magnus, and if necessary the pectineus, is divided and also any tissue, muscular or fibrous, obstructive to an absolutely free abduction of the femur. Experience has shown me that although the chief offenders are the adductors longus and brevis nevertheless the deeper muscles often require division. To anyone who has practised the operation the futility of attempts to divide the muscles effectively subcutaneously will be apparent. Division is followed with but little hæmorrhage and the wounds are closed without drainage. Having exsected the pieces of the adductors each tendo Achillis is divided, or, better still, elongated, for we often note that after division of the tendon outright there is a tendency to walk too much on the heel. Rectangular splints are then applied to the foot. The limbs are then well abducted and the surgeon notes whether there is any obstacle to easy extension of the knees. If there should be (it is not often the case) an open incision must be made on each side of the popliteal space and the tense hamstrings are in turn divided. If these incisions are long enough the fascial contraction can be attacked on either side, for it is here that opposition is found. I would discourage the use of a transverse incision, as when adopted it often seriously hampers the surgeon's efforts to extend fully the knee by reason of the strain cast upon the sutures. Simple division, however, with fasciotomy usually suffices to allow of easy extension and excision of tendons could do no more. In 1885 when I was at the Liverpool Stanley Hospital there used to be an adult diplegic man always at the gates in a perambulator and on two or three occasions I took him in to try to straighten his contracted limbs. On one occasion I removed about an inch from each of the hamstrings, but he was mentally so deranged that we did not do each other any credit. I mention the fact, however, because Lorenz of Vienna has quite recently written on the advantage of exsecting portions of the hamstrings.

We have now presumably got our patient stretched comfortably upon an abduction frame and we must keep him there for three months. The wounds heal very rapidly and suppuration has occurred in the adductor cavity on three occasions only, despite the position of the wounds and the number of operations performed; for instance, in 1890 I operated on 27 patients and this may be taken as a fair index of my yearly return. At the end of three months the splint is taken off during the day and movements are sedulously practised. For some weeks stiffness exists and often the movements are at first painful, but after a time (always shortened by vigorous exercise) the pain disappears and the effort must be made to walk. The splints are of a simple kind designed to keep the knee from bending. The boots should be made of felt with substantial soles. The nurse should be instructed to keep both boots and splints upon the patient day and night, and for the first two weeks, frequently during the day, abduction, adduction, flexion, and extension of the hips should be practised. This should be done with and without resistance. At night-time the feet should be attached to the side of the bed in order to maintain abduction. After the first few days of this later stage of treatment the splints should be removed twice a day and the muscles well massaged and both active and passive movements of ankles, toes, knees, and hips encouraged. Any movement executed in a jerky style should be practised until perfected.

The little patient may now try to walk. It will be noted that one of the difficulties of an untreated spastic child when he tries to walk is the narrowing of the pedestal upon which the trunk rests by reason of adducted limbs. Operation has now overcome this and with abducted limbs the body is poised upon a pedestal that is widened. During early training the nurse must see that while walking the limbs are not approximate and that from the first swinging aided by crutches must be prevented. Crutches should not be allowed until the patient has been taught to stand unsupported. I need not enter into any more detail regarding this most important stage of treatment, but would add that it affords an inexhaustible field for ingenuity and that upon the intelligence and industry of the nurse very much depends.

I cannot now deal with individual cases, but I may say that I have operated upon patients from 12 months to 20 years of age. A large number of these were so bad that they had never attempted to place one foot before the other. Some were structurally flexed (contractured) at ankle, knee, and hip. A most helpless youth, aged 20 years, with one limb across the other, was able in six months to stand erect and to walk with sticks, and 12 months later he was able to move his limbs north, south, east, and west with hardly an appreciable jerk. Success in an ancient case where so much has to be unlearnt, and where the mechanical stage offers so much difficulty, proves the soundness of the principles I have endeavoured to expound. It is logical to infer that if old neglected cases are amenable to surgical education our prognosis should be very hopeful in the young.

With regard to the degree of benefit to be derived from treatment, the parents should be given to understand that under favourable conditions of nursing and tuition the child, aided by the hand or sticks, will be able to walk distances in from 12 months to two years, and that with perfectly straight limbs and heels on *terra firma*. A large proportion of cases will later manage aided by one stick. Even in the least successful cases parents, mostly having despaired, are full of gratitude. The mental condition of the children obviously improves when their physical defects are remedied and they are enabled to mix with their little friends. Complete recovery in spastic paraplegia is, of course, impossible.

It will be gathered from my remarks that the treatment of spastic paralysis should resolve itself into a system. That system involves operative, mechanical, and educational stages. The treatment cannot be separated into parts. If the surgeon is not satisfied that the case is to be under his control for 12 months he will consult his reputation best by leaving it alone. Operations not followed up by careful and prolonged after-care give rise to disappointment and discredit. Merely dividing tendons and trusting to massage and electricity is futile and dispiriting.

In conclusion, gentlemen, I would say that infantile paralysis offers an immense field for surgical enterprise and if I have succeeded in even suggesting to you some of the possibilities your time will not have been altogether wasted.

LUNACY AND LAW: THE CARE AND TREATMENT OF PERSONS OF UNSOUND MIND IN PRIVATE HOUSES AND NURSING HOMES.[1]

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MY paper to-day is the natural outcome of the address by Sir William Gowers upon Lunacy and the Law,[2] the views of a London hospital physician, particularly in regard to private patients, given at our last general meeting in London. The discussion which followed was

[1] A paper read at the general meeting of the Medico-Psychological Association held at the County Asylum, Mickleover, near Derby, on Feb. 12th, 1903.

[2] THE LANCET, Nov. 22nd, 1902, p. 1369.

hardly worthy of the subject. Most of the earlier speakers, although eminent general physicians, had had little or no experience in the care and treatment of the insane; therefore when the turn came for those practically acquainted with mental diseases to speak the hour was advanced, the audience was weary, and an all-too-exacting brevity resulted. To-day the alienist's side of the question can be fairly stated. My wish is to deal with it as briefly and appositely as possible in order that the discussion may be as thorough as we can make it. I hope that all who have had practical experience of single care and of the treatment of mental cases in nursing homes will assist us in our search after truth, that the best results may accrue to those who suffer from this the saddest form of human ailments. I propose to treat the subject by a series of questions and answers, with illustrative cases here and there.

What is certified single care?—It is the care and treatment of a duly certified person of unsound mind in a private house. The forms for admission are identical with those for the admission of a private patient to a public or private asylum or registered hospital. There is a like order made by a judicial authority. The medical attendant takes the place of the medical officer in institutions, and must visit at stated intervals and make the customary reports to the Commissioners and Visitors in Lunacy. A registered practitioner with whom a single patient resides cannot act as medical attendant. The residence is approved by the Commissioners in Lunacy and the patient is visited periodically by them and the medical and other visitors for the county or borough. Chancery patients are visited by the Lord Chancellor's Visitors in Lunacy. Facilities of access are given to friends by statute. Thus abuses are guarded against and there is efficient official supervision.

What are the advantages of certified single care?—They seem to be (1) privacy; (2) domesticity; (3) secret visits of friends; and (4) the avoidance of the stigma of treatment in a lunatic asylum.

1. *Privacy.*—The rich and well-to-do try their utmost to keep secret the mental breakdown of any member of the family for well-known reasons, hence single care at a distance from home is the desideratum.

2. *Domesticity.*—The upper classes often dread the contact of their relatives with other insane patients and complain of the lack of the comforts of home life in public and private institutions. These objections are now removed by the villa residences attached to public and private asylums and hospitals for the insane.

3. *Secret visits of friends.*—In single care the relatives, if so disposed, can visit unobserved and much more frequently than they can in an asylum or hospital.

4. *Avoidance of stigma of insanity.*—The sting of certification is in the magisterial inquiry. Young and inexperienced justices often investigate the cases more fully than is necessary. They place too little reliance upon the facts contained in the medical certificates. The terrors of certification are thereby increased. The form of the medical certificate needs revision. The term "alleged lunatic" should be removed. The word "asylum" should be applied only to an institution for "the chronic and incurable insane." "Hospital for mental diseases" should be used for an "institution for acute and curable cases." The terms "lunatic" and "lunacy" should be removed from the statutes, "person of unsound mind" and "insanity" taking their places. For years past the terms "lunatic," "lunacy," and "pauper" have been forbidden at the City of London Asylum and the word "asylum" has only been used for statutory purposes.

What are the disadvantages of certified single care?—(1) The absence of skilled medical treatment; (2) unskilled nursing; (3) monotony; (4) insufficient moral control; (5) interference of friends; (6) limited supervision; and (7) want of tact and business capacity on the part of the custodian.

1. *The absence of skilled medical treatment.*—The general practitioner, as a rule, knows but little of the treatment of mental disease. Psychological medicine has only recently become compulsory in the medical curriculum. Moreover, I am sure that you will all agree with me when I state that the knowledge of the proper treatment of mental diseases is not to be acquired in the rounds of general practice, or in the consulting-room, or even, at present, within the wards of a general hospital.

2. *Unskilled nursing.*—The nurses (male and female) having charge of single patients have had no special training, as a rule, in the management of mental cases and, although, perhaps, hospital trained, are quite unqualified for the work. No nurse is qualified to undertake a mental case in single care unless possessed of the nursing certificate of the Medico-Psychological Association, which is a recognised guarantee of efficiency. The responsibility with single patients is the greater because the nurse from want of skilled supervision is so frequently thrown upon her own resources.

3. *Monotony.*—We all know of the many associated amusements and means of recreation provided in institutions for the insane. How dull must be the life of the patient in single care in this respect.

4. *Insufficient moral control.*—The moral decadence of the upper and upper-middle classes when insane is far greater than of the agricultural and industrial populations. Sedentary life, luxury, and high living tend to bad habits. Self-abuse is far more common amongst private patients than amongst the rate-paid. The moral control—I would rather term it "school discipline"—of our institutions is one of the most potent means we possess for successful treatment. The day is apportioned out to meals, employment, recreation, and amusements. The will is made subordinate to others, bad habits are corrected, and in many instances our patient is thereby conducted back to rational health. [Here Dr. White gave details of an illustrative case.]

5. *Interference of friends.*—With single patients the friends either get them removed as far from home as possible, satisfy themselves that they are well housed, well clothed, well fed, and kindly treated, and visit them only when obliged, for sympathy for the insane relative generally quickly dies, or the patient may be visited much too often, the treatment of the medical attendant and management by the nurse being interfered with to the great detriment of the chances of recovery.

6. *Limited supervision.*—Certified single patients are taken for profit by needy practitioners, decayed ladies, and others. The official supervision of these custodians is limited. How can we guarantee in all cases humane treatment by nurses, also proper food and environment at all times? We must remember that the best mental-trained nurses remain in the asylum service or become attached to the better-class nursing institutes of the metropolis. Therefore we have not always the most trustworthy people in charge of the patients under consideration. On the contrary, it is an absolute fact that in a great number of cases the nurses in charge have not had any mental training whatever, frequently they are hospital-trained nurses who are sent out by institutions to whatever case may turn up. I have heard also of asylum laundry-maids posing as mental nurses on the books of such institutions.

7. *Want of tact and business capacity in the caretaker.*—Decayed ladies and retired nurses are not possessed of much business capacity, tact, or energy in the duties of the house.

What is uncertified single care?—It is the taking charge of a person of unsound mind (not under certificates) in a private house or nursing home. I believe that hundreds of insane patients of the upper and upper-middle classes are at the present time under care and treatment without being certified in the various counties of England and Wales, not to say the Channel Isles and the near continent. What happens is this. A member of a family, probably with neurotic inheritance, develops mental symptoms. The parents dread certification and because of the so-called "stigma of insanity" avoid as long as possible the alienist physician being called in but consent to a "nerve specialist" being consulted. To the neurologist the patient is taken; he duly prescribes and advises. After a short time the symptoms become more pronounced and home treatment is impossible; the patient must go away. Then the assistance of the decayed gentlewoman is sought, that she may undertake the remunerative care of the insane person, or a nursing home is selected with which some practitioner in a suburban or rural district is connected. The neurologist sees the case from time to time in consultation. He considers himself to be well qualified to treat this form of disease and in the interests of humanity (as Sir William Gowers tells us) is accessory to an evasion of the law. Ultimately in many instances, owing to an exacerbation of the symptoms (some attempt at suicide or homicide, &c.), certification becomes imperative and the patient is sent to a recognised institution for mental diseases. It is from these cases many of us have to glean our recoveries and a difficult task it is at so late an

hour in the day of disease. Let us consider two or three cases to illustrate uncertified single care. [Dr. White here gave a detailed account of some illustrative cases.]

What are the advantages of uncertified single care?—(1) The avoidance of the so-called "stigma of insanity"; (2) secrecy; (3) the so-called continuity of medical treatment (doubtful if unskilled); (4) freedom from contact with other persons of unsound mind; and (5) domesticity.

What are the disadvantages of uncertified single care?—(1) Insufficient general and moral control of the patient (there is no legal power of detention, for the patient is in full possession of civil rights); (2) the patient's property is not safeguarded from unworthy relatives, solicitors, medical men, caretakers, and nurses; (3) frequently there is unskilled medical treatment, or none at all; (4) unskilled nursing as a rule; (5) monotony in some out-of-the-world place; (6) interference of friends; (7) want of official supervision; and (8) incapacity of caretaker.

The want of official supervision is, perhaps, the most serious of these disadvantages, for I have heard of inhumane and cruel forms of personal restraint which have been used upon these unfortunate patients even since the passing of the Lunacy Acts 1890–91, and is not this what we should expect with no official supervision?

[Here Dr. White gave an account of cruel treatment which had come under his notice.]

What is the suggested notification of mental cases?—It is that in all cases of mental unsoundness in which certification and compulsory detention seem needless, and in borderline cases, there shall be a system of notification to the Commissioners in Lunacy by anyone receiving payment to the effect that "A. B. is a person of unsound mind and is not a proper person to be detained." It has been also suggested that this notification shall be to the local authority. It is presumed in the first instance it will be followed by the visit of a Commissioner in Lunacy or someone deputed by the Commissioners, and in the second by a medical officer appointed by the local authority.

What would be the advantages of such notification?—They would be the same as those given under the heading uncertified single care (*vide* above).

What would be the disadvantages?—These again would be identical with those given under uncertified single care (*vide* above) with in addition increased official expenditure from the necessary appointment of deputy or district commissioners to inquire into the numerous class of cases which would rapidly crop up. In an article on Lunacy Law Reform in THE LANCET of Dec. 27th, 1884, I suggested the appointment of deputy commissioners in the following terms: "District experts as medical officers of insanity, occupying analogous posts with that of coroner or medical officer of health, with fixed salaries, these officers to be elected from their experience in the speciality, and to be allowed to practise as pure physicians. Their duties would be to examine all supposed lunatics in consultation with the medical man in attendance, to sign all necessary certificates, to visit all single patients, and patients in private asylums in their districts, to report thereon from time to time to the Commissioners in Lunacy, and so act as district agents for the Commissioners or Deputy Commissioners. ..... They would have power to order the discharge of any single patient, or any patient from any private asylum in the district, should such a course be desirable on account of recovery or otherwise. They would also have authority to prevent the removal of any patient by his or her friends when such removal was calculated to be fraught with danger to the patient or others." Many of the suggested reforms in that article were adopted in the Lunacy Acts, 1890–91. This one was not, for the obvious reason—expense.

I am afraid that notification, unless under the most efficient official supervision, would encourage a continuance of the evasion of the law, or at least would delay proper remedial treatment in consequence of the patient not being under proper moral control.

What cases are suitable for cure and treatment as certified single patients?—(1) Quiet and harmless tractable imbeciles; (2) quiet and harmless chronic dements; (3) certain general paralytics in the last stage; and (4) hypersensitive patients convalescing from melancholia.

What cases are unsuitable?—All others.

What cases are suitable for care and treatment uncertified?—(1) Transient cases of mania and melancholia dependent upon drink and abuse of drugs; (2) certain borderland cases where the symptoms are undeveloped; and (3) other cases in which the symptoms are not severe and which have a definite exciting cause not likely to be long operative.

How should they be protected against abuses?—By proper and complete official supervision. I have been for years past, and am still, in favour of the appointment of deputy commissioners for districts as defined above, such appointments to be made from those skilled in the treatment of mental diseases.

What is the suggested temporary care and treatment of the incipient insane?—In 1899 the joint committee of the British Medical and Medico-Psychological Associations, of which I have been a member by your courtesy since its formation, waited upon the Lord Chancellor at the House of Lords. The committee urged the necessity of early legislation for the incipient insane. It told the Lord Chancellor how numberless borderland cases were smuggled away in the country, the Channel Isles, and on the continent, to avoid legal certification, how their chances of recovery were imperilled thereby, and how the possibilities of inhumane care existed. As a consequence he introduced into the Lunacy Bill of 1900 the following clause, adapted from the existing clause in Scottish Lunacy Law:—

1. If a medical practitioner certifies that a person is suffering from mental disease, but that the disease is not confirmed, and that it is expedient with a view to his recovery that he be placed under the care of a person whose name and address are stated in the certificate, for a period therein stated, not exceeding six months, then during that period, the provisions of Section 315 of the principal Act shall not apply.
2. The certificate must not be signed by the person under whose care the patient is placed.
3. Where a medical practitioner signs any such certificate he shall within one clear day after signing it send a copy of it to the Commissioners, and the Commissioners may visit the patient to whom the certificate refers.

I believe that this clause with its three sections will meet all the requirements of the case for the insane of the upper and upper-middle classes provided that the deputy commissioners above named be appointed.

As several of the county and borough asylums are at the present time admitting private patients in large numbers would it not be well that the voluntary boarder system appertaining to the registered hospitals and private asylums should be extended to public asylums? There are many patients—incipient and border-line melancholic cases—who lack self confidence and who, if they can place themselves under the sheltering wing of an institution giving them medical and general supervision will rapidly regain their mental balance and thus escape certification. Those who have had ample experience of the voluntary boarder consider the legislation regarding him has been productive of much benefit.

Having surveyed the subject in detail we must now consider the various points, not already discussed, to which allusion was made by Sir William Gowers. The contemplation from the train of the wall of Hanwell Asylum, we are told, prompted him to lead a crusade against the existing Lunacy Laws. He thought of those the wall excluded and those it included. Now the wall of Hanwell (the oldest of our London county asylums) is an anachronism. The asylums of to-day have no walls and while the buildings include those committed to the humane and skilled care of the medical officers for treatment, they do not exclude those who desire to gain knowledge regarding mental diseases. The lovelorn Kentish cavalier when he wrote in his prison in Westminster the lines the first of which Sir William Gowers quotes little thought they would be applied to an asylum for the insane some 250 years later. Let us contemplate these lines:—

"Stone walls do not a prison make,
Nor iron bars a cage;
Minds innocent and quiet take
That for an hermitage;
If I have freedom in my love,
And in my soul am free,
Angels alone that soar above
Enjoy such liberty."

We do not acknowledge the walls as part of our treatment to-day, nor are iron bars necessary in institutions for the insane; they appear (as we have seen) to be only required for uncertified patients in single care. Our cavalier, although imprisoned was happy withal in the freedom of his thoughts.

Sir William Gowers tells us that in many cases certification is harmful and unnecessary. Many of us differ from him upon this point. We recognise in certification the

means of placing the patient under proper control for treatment, and we are satisfied that the chances of recovery are in many instances greatly increased thereby. The cases quoted by him as suitable for treatment without being duly certified were peculiarly unfortunate. They all had delusions of persecution, and these patients, as we alienists know, may at any time become actively homicidal or suicidal by impulse. They should certainly all have been under certificates, both in the interest of the public and of themselves. Sir William Gowers states that every patient received for payment and uncertified is a free agent, can leave or be removed at any time. Such is not my experience with uncertified insane patients in single care. Furthermore, I do not admit that certification is in any way disastrous to the patient or the painful distress to friends it is stated to be.

Sir William Gowers speaks of the "divorce of psychological medicine from general medicine." There is no divorce. They have always been separate and distinct and must remain so from the very nature of mental disease and the treatment demanded. The moral side of this treatment is all-important, the medicinal only accessory and that in quite a minor degree. The days of chemical restraint and of the exhibition of medicinal nostrums for insanity are past and gone. We have too many proofs of the value of our more unlightened system to wish to revert to them. Let the general body of our profession make themselves thoroughly acquainted with this system; they will then recognise the vital importance of the daily contact of the mental physician with his patient to control the management and moral treatment of the case, the necessities of which are ever varying.

We are told that the "master of method" is necessary for the full and proper development of the normal mind of youth, that a scholar who has not had training as a schoolmaster is unequal to perfecting a student's education in classics, mathematics, or the higher sciences, how much more then must the "physician of method," trained by long experience and daily contact with the insane, be essential for the re-education of the abnormal mind, for the replacing of the unhinged mind upon its hinges, for the dispelling of the hypochondriacal delusions of the melancholiac, and for the calling back to mental life again of the quasi-demented patient in mental stupor? Speaking after 30 years' experience as a public asylum physician, and 13 as a lecturer on mental diseases, I would state unhesitatingly that to comprehend the vagaries of the mind diseased, to lead that errant mind back to health, and to recognise the means by which this end can be attained, are problems only to be solved by those who have made the insane their intimate and lifelong study.

Note appended Feb. 7th.—Sir William Gowers has just published in pamphlet form his address of Nov. 20th, 1902, with a Note. I observe that the title is altered. It now reads, "An Address on the Prevention of Insanity." Would not "on the Evasion of Insanity" be more appropriate? In the note he draws attention approvingly to Sir William S. Church's suggestion that notification should be to the local authority, the facts of each case to be subsequently investigated by the medical officer of health or some other official appointed by the local authority. What does the medical officer of health know of mental diseases? Is he qualified to decide such a case? and who is the other official suggested? Who but one skilled in the treatment of insanity is qualified to decide whether the conditions under which the patient is placed are such as are likely to promote recovery or whether certification is necessary in his or her own interest? Sir William Gowers is in error when he states that provision is already made for the reception of border-line patients as voluntary inmates of public asylums. At present voluntary boarders cannot be taken in county or borough asylums, but only in registered hospitals and private asylums. He tells us, moreover, that it is a sarcasm to suggest that patients on the verge of mental derangement would place themselves in lunatic asylums. Is he not conversant with that large class of cases of incipient melancholia in which the patient lacks self-confidence and self-reliance, is imbued with a sense of impending trouble, and consequently eagerly seeks admission within the walls of a private asylum as a voluntary boarder and expresses a feeling of relief when under the sheltering wing of the institution? The limitation which Sir William Gowers takes objection to in connexion with the clause for the treatment of incipient insanity, "that no person under this section shall receive more than one patient at the same time," is in accordance with the principle of the Lunacy Acts, 1890–1891, that private asylums are to die out by gradual extinction, for no new licence can be granted. To receive more than one patient would constitute a private asylum. Sir William Gowers objects also to the sanction of the justice of the peace being necessary and adds that "such a sanction could only be a useless formality." He forgets that it is right that the liberty of the subject should be taken away only by some mode of judicial procedure.

NOTES UPON A CASE WHERE SYMPTOMS OF EARLY GENERAL PARALYSIS OF THE INSANE FOLLOWED A HEAD INJURY;

TREPHINING; REMOVAL OF DEPRESSED BONE; DISAPPEARANCE OF THE SYMPTOMS.

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AND
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ON Dec. 16th, 1902, was seen for the second time a patient, aged 30 years, who exhibited a remarkable group of symptoms. About three months previously he had been thrown out of a dogcart and had sustained a scalp wound in the left frontal region, below the frontal eminence. He was also somewhat "concussed," but his symptoms were not considered bad enough to confine him to bed except for a short time. The bone was carefully examined and found to be uninjured. All went well for some weeks, but in about a month's time the patient commenced to suffer from pains in the head, loss of memory, and a vague feeling of "not knowing what he was about." His wife and friends noticed an alteration in his manner and temper. He exhibited sudden and violent outbursts of passion and was unfit to carry on the ordinary business and duties of life. I was at that time anxious for him to remain in London, but he returned to the country, and under medical advice rested in bed for some weeks and took the iodides. At the same time all alcohol was interdicted. He got much better, but on resuming a more active life all his old symptoms returned with increased violence. Getting alarmed his friends again brought him to London. His mental condition being very peculiar Dr. T. Claye Shaw saw him on Dec. 18th, and the following is a summary of his remarks:—

The patient wore a confused and demented facial expression and had a considerable amount of both facial and general tremor. He complained of pressure-feeling over the scalp and declared his inability to perform any sustained mental work. There was no disease of the fundus oculi, but the pupils were slightly non-symmetrical, the left being the smaller; they reacted to light and accommodation. He could not stand firmly when his feet were placed together, nor could he walk along a line when told to plant one foot directly in advance of the other. The knee-jerks were present but weak. There was some tremor of speech, but the tongue was fairly steady and there was no prominent complementary spasm of the muscles around the orbit. When asked to read the paper he misplaced and mispronounced words and altered the spacing. The handwriting was to be deciphered with difficulty owing to the crowding of the letters and shakiness of the upstrokes.

The prominent mental condition was one of dementia, an apathy and slowness of comprehension in answering ordinary questions. There was an unwarranted sense of bien-être but no illusions could be elicited. The friends said that he had become subject to impulsive outbursts and was considerably changed in general disposition. He suffered from insomnia and spoke of loss of sexual appetite.

As to diagnosis there was no history of alcoholic excess or of syphilis and the symptoms appeared to be directly traceable to the injury to the head. It was probable that they were due to pressure and the only remedy seemed to be to resort to trephining as soon as possible. The temperature under the tongue was 100° F.

The operation was done on Dec. 19th. On reflecting a semilunar flap including the area of the old injury, and examining the bone critically, a faint crack was distinctly seen. Upwards of three months having elapsed since the injury union had occurred, and without a close inspection the lesion would have been undetected. A trephine with the diameter of a shilling was here applied; the bone was very thick and hard. On removal of the disc a fracture of the inner table of the skull was evident and two small pieces of bone were depressed deeply upon the dura mater, which

was uninjured. No pulsation could be detected. Another portion of bone was removed and then the membranes rose up and pulsated freely. There was very troublesome hæmorrhage from a large anterior branch of the meningeal artery. This was allowed to bleed, a drainage-tube being introduced beneath the flap. Recovery was rapid and uneventful.

Within a day or two of the operation the most marked and gratifying change occurred in the patient's mental condition. He became intelligent and lively, and his face assumed a bright expression, quite different from the heavy, apathetic, and somewhat morose expression which he had previously shown. He got up in a fortnight, and left for the country in three weeks. He could walk straight, confidently, and well. He could sign his name "as well as ever," and despite my remonstrance he conducted some business rationally and well. The knee-jerks were still weak. His wife and other relations regarded him as quite restored to his natural mental state. The return of his power of writing was very remarkable, for whereas before the operation he could merely make a series of barely decipherable up and down strokes after it he could write clearly and well. Dr. Shaw again saw him two weeks after the operation when the improvement was very striking. The face had regained an intelligent expression, the pupils were equal, and the walking power, as far as it could be tested, was as usual. The improvement in the handwriting was most marked and we possess specimens of his signature made just before and soon after the operation.

Fits of an epileptiform nature, severe pains in the head, and mental disturbances are all found in these curious and interesting cases. In some cases mere thickening of the bone is found and in others a depressed fracture previously quite unsuspected. In others, again, the membranes have been found thickened, and cystic formations, the remains of old blood extravasations, have been detected. The bone should be freely removed, but unless there be a very definite reason it is better not to incise the dura mater in these cases. Should any suspicion of cerebral abscess be present in the mind of the operator the brain beneath should always be explored in the usual manner. "The case," writes Dr. Shaw, "shows the good results of early operation before the pressure which undoubtedly existed was able to effect wasting changes. The reappearance of pulsation in the brain after the removal of the bone was very striking."

Cavendish-place, W.

A METHOD OF EXAMINING THE PULMONARY APEX.

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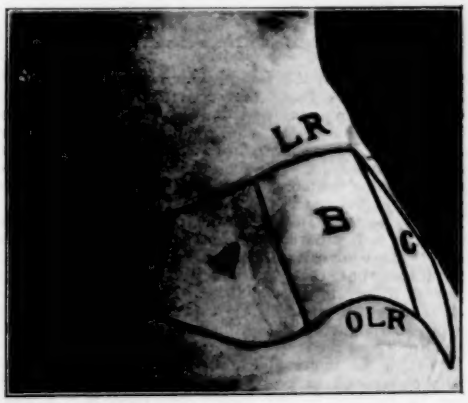
IN a former communication[1] I described certain methods of physical diagnosis chiefly applicable to the bases of the lungs and it is now proposed to describe a method of examining the pulmonary apices designed to yield trustworthy indications of the very earliest stage of phthisis. It is commonly recognised that certain general symptoms—e.g., anæmia, indigestion, and evening temperature—may be the only evidences of the commencement of tuberculous deposit in the lung: no really trustworthy data being afforded by the conventional methods of examination. The procedure about to be described may materially assist in the detection of such cases.

In addition to a large number of clinical examinations, I have made a number of observations on the cadaver by sections and otherwise, with a view to determine the relationship of parts and the exact positions of intervening structures. In this part of the work I am much indebted to Braune's Atlas and to some remarkably constructed myographical plates by E. W. Tuson of the Middlesex Hospital, published in 1825.

The height to which the apices of the lungs rise varies somewhat. Lying above and between the insertions of the sterno-mastoid, in the curve of the subclavian artery, they reach on an average from one inch to one and a half inches above the clavicles. In some cases they reach two inches. The extreme apex is free and unsupported by bone, but below this the pulmonary tissue is bound down by the rigid first rib. Trustworthy observations show that the right apex is a shade higher than the left, but this makes little appreciable difference in practical work. The area now to be considered is situated entirely above the clavicles, extending from these bones to the level of the second dorsal spine, and so includes the entire posterior apical region of the upper lobe.

The method is as follows: first, all the resonant area above the clavicles is "percussed out." Percussion is begun at the clavicular attachment of the outer head of the sterno-mastoid and continued upwards, just outside the border of the muscle. Finger-to-finger percussion may be employed, but I generally use a vulcanite rod pleximeter, the contact or chest-piece of which is about half an inch in diameter. The stroke must be very gentle and its direction vertical, or even rather away from the muscle. It will be found that at a certain point above the clavicle the note changes from resonant to dull. This point is marked off with a dermograph. It may be mentioned, that although the apex of the lung lies farther forward than the outer edge of the muscle, percussion over the muscle itself is useless owing to the proximity of the larynx. It is essential that the patient hold his head erect without any deviation or rotation to either side. Next, percussion is similarly made along the inner border of the trapezius (which is sufficiently evident in most persons) and the point at the side of the neck where resonance ceases is similarly marked off. So, proceeding backwards, percussion is made in an upward direction until the upper limit of resonance is determined all round and the line L R (Fig. 1) is brought out. In

FIG. 1.



percussing the parts outside the inner border of the trapezius firm pressure should be made with the finger or pleximeter and the stroke should be fairly forcible owing to the thickness of the tissues (chiefly fat, trapezius, and levator anguli scapulæ). If a pleximeter be used, its contact extremity should be long and narrow.

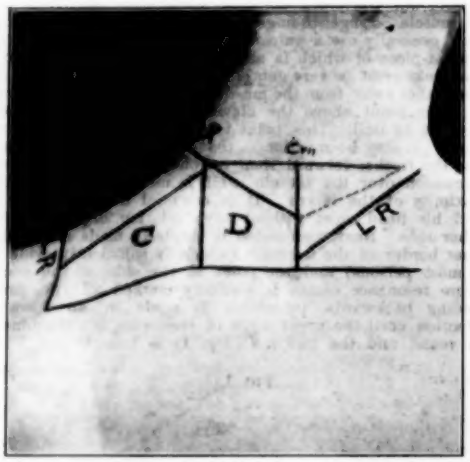
The upper line or limit of resonance being obtained, the outermost or lower limit of resonance is next mapped out. Percussion is begun over the inner third of the clavicle and continued outwards along the bone. About its outer third the note will change. It may be observed that to elicit this change of note mediate percussion (finger-to-finger) is better than direct. By successively percussing in the same direction the outer limit of resonance is brought out (O L R in Fig. 1). It will now be observed that the upper line of resonance passes obliquely upwards, crosses the interval between the sterno-mastoid and trapezius, still taking an upward direction, until its highest point is reached. It then continues almost on the same level for some little distance, and takes a course downwards to end at the first dorsal spine. The outer line of resonance forms nearly the arc of a circle whose convexity is inwards. In this way the upper and outer limits of the apical area are determined; the anterior limit is the clavicle and the posterior limit is a line drawn outwards from the second dorsal spine to meet the posterior end of the outer line of resonance. Such a line

[1] THE LANCET, May 31st, 1902, p. 1526.

passes beneath the superior angle of the scapula. We have thus the apical region as a somewhat quadrilateral area, mapped out by these different lines.

This area falls to be divided into certain segments. The first or anterior segment (A, Fig. 1) is bounded behind by the inner edge of the trapezius and is thus entirely included in the posterior triangle of the neck. The disposition of the other segments will be best appreciated by a reference to Fig. 2. Here it will be observed that a square is formed on

FIG. 2.



the line which joins the seventh cervical and second dorsal spines. It will be found that normally the upper line of resonance runs from the first dorsal spine to the upper and outer angle of the square. From this angle a line is drawn parallel to that along the inner border of the trapezius. These lines include the middle segment (B). The posterior segment (C) lies behind and below this, while the vertebral segment (D) is formed by the lower part of the square.

The key to the detection of incipient disease in one or other apex is familiarity with the physical signs yielded in health. There are certain phenomena which are common to both apices, but the signs elicited from the individual segments differ on the two sides. Not only is this so, but each segment on either side yields certain modifications in the physical signs which are distinctive of itself, and these are uniform over the entire segment.

In health the upper and lower limits of resonance practically correspond in position on the two sides, provided there be no flaw in the bodily conformation. A slight deviation may be present in the respective positions of the two upper lines, owing to the slightly greater height of the right apex. Allowance should be made for this in conducting examinations, but it rarely occurs as a disturbing element. The distances between the upper and outer lines of resonance should be measured from fixed points on either side and compared. This is an important consideration in the investigation of disease.

If the pleximeter be placed immediately above the upper line of resonance, and percussion be made during quiet breathing or after a forcible expiration, it will generally be found that if a deep inspiration be taken and the breath held, the percussion tone will change from dull to resonant—that is to say, there is an extension of resonance upwards due to inflation of the apex. A quarter of an inch is about the limit of this excursion, which is represented by the dotted line in Fig. 3. Sometimes considerable delicacy of technique is requisite to elicit the phenomenon, and in stout flabby persons it may not be obtainable. In thin muscular subjects with strong lungs it is very evident. Its importance lies in this, that it be equally produced on both sides. Owing to the fixity of the first rib no such extension of resonance is produced at the outer line.

In determining the physical signs over the individual segments it is important to note the condition of the patient. Very lean subjects yield signs which might mean disease in stout ones. It is useful to begin by palpating the various segments and comparing the two sides. Then the characters of the breath sounds, vocal resonance, and whispering resonance are noted and compared. The whispering resonance is of high importance and should never be omitted in any examination.

It is generally recognised that normally the expiration sound (which is always "bronchial" in character) is commonly heard over the right apex, at least on deep breathing, and that the vocal resonance is considerably louder than over the left apex. This is true both as regards males and females. But such general terms of expression are inadequate and misleading. It is necessary to consider each individual case separately from the results obtained in the individual segments.

It cannot be too strongly insisted on that it is only by adopting a standard of comparison that any accuracy can be obtained. Such a standard may be defined as follows. Over the anterior segments the auscultatory signs (breath sounds, vocal resonance, and whispering resonance) are most intense, those over the right segment being more marked than those over the left. Over the middle and posterior segments on the left side the whispered voice should be inaudible and on deep breathing the expiration should likewise be inaudible, or at least very faint and of short duration. Exceptions to this only occur in the case of very lean or very young individuals, in whom both phenomena may be present. It is to be premised, however, that the patient is instructed not to blow his breath out forcibly, but rather to "let it go." On this side also the vocal resonance is more pronounced over the middle than over the posterior segment. On the right side both the whispered voice resonance and the expiration sound—at least in deep breathing—are normally present over the middle and posterior segments, while the vocal resonance is nearly equal over both segments and considerably louder than over the corresponding segments on the left side. The vertebral segments have characters peculiar to themselves. Variations are common, which are, however, devoid of any important significance. Commonly they present bronchial breathing, bronchophonous voice, and whispering bronchophony (not whispering pectoriloquy). The sounds are sharp

FIG. 3.

and "empty" (Skoda) and are due to direct conduction from the larynx through the solid tissues. They are most pronounced on the right side.

Now, if the pulmonary apices be examined in this fractional and comparative manner any deviation from the normal standard, *any evident disproportion* either in respect of characters common to both sides or to the individual segments, may be justly regarded as a ground for suspicion. As early indications of abnormality the following points are to be noted: 1. Failure of the upper line of resonance on one or

other side to ascend during a deep inspiration. 2. A lowering of the upper line of resonance in whole or in part as compared with that on the opposite side. Posteriorly, for instance, the line may occupy the position shown in Fig. 2 (right side), or the fall may be evident only at the anterior extremity, or it may be general all along the line. In estimating this a slight allowance is to be made in favour of the left side but only in that portion of it anterior to the vertebral segment. It should also be ascertained that the line on one side is not abnormally high from emphysema. 3. Indistinct definition of the upper or outer lines of resonance—the resonant and dull areas merging more or less into each other. 4. Inward displacement of the outer line of resonance. Should one or more of these signs be present it may be possible to detect some deficiency in the excursion of the diaphragm on the same side.

The results obtained by percussion are next compared with those of palpation and auscultation. The points for consideration are chiefly these: 1. The breath sounds disproportionately feeble in one or other of the anterior segments (especially if the right side approximates to the left). 2. Any approximation in intensity in the vocal resonance on the left side to that on the right, either generally or in one or other segment. 3. The presence of whispering resonance and expiratory breath sound over the middle or posterior segment on the left side, noting specially the pitch and duration of expiration; if present on quiet breathing, and comparing with the same segment on the opposite side. 4. A discrepancy in the characters of the physical signs over different parts of the same segment; as already mentioned, the signs over each segment should be uniform throughout. 5. Encroachment of the signs pertaining to one segment or another—applying more particularly to the left side, as, for instance, bronchial breathing and bronchophony extending beyond the margin of the vertebral segment.

It is most usual when examining the apices in this way to find any abnormality with regard to the lines of resonance existing alongside some change in the normal character of a segment or segments: thus immobility of the upper line of resonance may coexist with weak breath sounds in the anterior segment, or a fall in the highest part of the line on the left side with the presence of expiration sound and whispering resonance in the middle segment. On the right side the results of percussion are more especially valuable, as the auscultatory signs by themselves are less definite there. We note that the delimitation of the percussion areas may be verified by (1) the vocal and whispering resonances, and (2) "transsonance." A stethoscope with a small chest-piece (three-quarters of an inch in diameter) should be used.[2] It is moved along the segments in such a manner that each successive application partially overlaps the last. At the limits of resonance the sounds will change. "Transsonance" is a form of auscultatory percussion which is recommended by Abrams. A bone, such as a vertebra or the manubrium sterni, is directly struck with the finger or a hammer while the stethoscope is moved along the parts to be demarcated, the same point being struck all the while. A change of tone occurs in passing to a part of different density. By "transsonance" we may also compare one apex with another.

It has been pointed out that the auscultatory phenomena over the right apex are less trustworthy, but in addition to the aids just described there is another not to be lost sight of. It is, that in cases of disease the difference in the expiration sound in quiet and deep breathing respectively is much less marked than in health. In disease the bronchial type may be equally well marked in both forms of breathing. This is a feature which is of general application.

Occasionally in healthy lungs one hears a few crepitations over the apex (usually in the anterior segment) which are atelectatic in character. They only occur in the end of the first deep inspirations taken, and disappear completely after, it may be, one or two inspirations. They differ in character from those due to tubercle, being also more numerous. Tuberculous crepitation, on the other hand, is always persistent.

It sometimes happens that a tuberculous apex becomes hyper-resonant, either from local emphysema or relaxation of the pulmonary tissue. A difference in the position or in the capability of movement of the line of resonance may then be found on that side, and other differences may be detected in the normal relationships of the auscultatory signs over the segments. It is very easy to diagnose a healed tuberculous focus in the apex by this method.

Although little else has been attempted in this communication than to outline the technique employed, its successful application in individual cases is entirely a matter of practice and, it may be added, of patience.

Henrietta-street, W.

[2] Obtainable by unscrewing the ivory chest-piece of the flexible binaural stethoscope.

A RARE FORM OF PURPURA.

BY H. LAING GORDON, M.D., C.M. EDIN.

THE case described below offers, in the present state of knowledge, little more than a pretty subject for academic discussion; but an account of this unusual variety of an uncommon form of disease may supply useful facts or hints to investigators of the nature of purpura.

It does not appear that so far the clinical appearances of the disease or pathological investigation have demonstrated its origin, although they have stimulated ingenuity in grouping and classification. There will be no small difficulty in fitting this case into one particular group. The term "purpura," indeed, describes it inadequately, while to call it "Henoch's purpura" is like putting a fat *cache-pot* on a narrow shelf. The bestowal of Henoch's name on a rare group of cases gives them a fictitious importance; the symptoms he described as "added to purpura and articular swellings"—viz., vomiting, intestinal hæmorrhage, and colic—are probably due to internal extravasations of blood; and if this be so, "Henoch's purpura" is revealed as a severe form of ordinary purpura. The necropsy on Silbermann's patient referred to in the article "Purpura" in Allbutt's "System of Medicine"[1] tends to confirm this view. Henoch himself wrote only of "Eine eigenthümliche Form von Purpura," using an adjective which might qualify every case of purpura described since he wrote. The case to be narrated exhibited the symptoms described by Henoch, added to purpura and articular swelling, but had other severe symptoms superadded which did not appear to be attributable to extravasation. An opinion on the origin of a group of symptoms must be, failing definite evidence, a mere individual impression. Dogmatism is a snare but deprecation is craven, and so, in the absence of any specific organism to spare us the use of vague terms, my impression would ticket this case as either "nervous" or "rheumatic."

The patient, a boy, aged 14 years, known to me as being nervous and abnormally sensitive, persevering at work and plucky in games, was taken ill on Feb. 27th, 1901, complaining of pain and stiffness in the limbs and a rash on the legs. These symptoms disappeared in the morning but returned the next evening with increased severity, so that on March 1st the head-master of the boarding-school in which the boy was a pupil asked me to see him. There was no history of previous rheumatism or of any recent illness except slight sickness and transient earache on Feb. 23rd. I found the patient complaining of pain and tenderness in the knees, ankles, elbows, and wrists without heat or swelling. The temperature was normal and the pulse was 78; a slight fur was present on the tongue. The extensor surfaces of both legs, the inner surface of the thighs, and the outer aspect of the elbows were dotted thickly with a purpuric rash, some spots being red, unraised, and recent, others having begun already to fade, while all were indifferent to pressure. The diagnosis of "purpura rheumatica" seemed to be clear, but the same evening (March 1st) the onset of colic and hæmorrhage from the bowels proved it to be premature. In 24 hours over a pint of blood was lost; happily this symptom did not recur. On the 2nd and 3rd there was no more purpura, but on the 3rd the anterior aspect of each ankle was a mass of urticaria, while the pain was moving from joint to joint. The dorsum of each foot was tender and enormously swollen on the 2nd, but on the 3rd this had disappeared completely, giving place to similar conditions of the elbows and wrists. On the 3rd the colic also returned with repeated nausea and vomiting of bile; the abdomen was tender all over. The patient's helplessness on the same day was increased by sudden tenderness

[1] Allbutt's System of Medicine, vol. v., p. 582.

and pain in both temporal regions rapidly followed by œdematous swellings of the size of an orange; the next day there was no trace of these swellings beyond soreness at their site.

From this date (the 3rd) there followed a rich abundance and variety of symptoms. From hour to hour, not merely from day to day, the clinical picture would change in a manner which defies description but which soon reduced the boy's attendants to a state of stolid but sympathetic expectancy and the patient himself to complete indifference. He seldom spoke throughout his long illness and even his monosyllabic utterances were accompanied by tears. In the course of 24 hours ugly swellings would appear and disappear, a dozen joints would be racked with pain in rapid succession, and the surface of the body would exhibit a whole atlas of skin diseases. Simple erythema and purpura, urticaria, and erythema exudativum in all its varieties, cropped out and disappeared for week after week in disheartening fashion; blushes and spots, stony nodes and nodules, and enormous papules presenting themselves and vanishing one after another or in groups, but always irregularly in order and seat.

On the 4th there was occasional colic; on the 5th the most prominent features were œdema of the right upper eyelid of the size of a hen's egg, and in the evening return of the colic and vomiting, and severe pain in the elbows, wrists, and ankles, while both cheeks swelled suddenly, and erythema nodosum and purpura contended for supremacy in the limbs. Purpura was triumphant on the morning of the 6th and the œdema was transferred from the cheeks to the forehead as though a variety of grotesque distortions of the features were the object; in the afternoon the buttocks were covered thickly with erythema papulatum. But the colic remained the most anxious symptom up to March 8th when it subsided in favour of pain all over the back, and this gave place in turn to pain, œdema, and tenderness of the left side of the trunk, the left thigh, knee and hand, and both legs, causing inability to move. The patient was able to move comfortably once more by 9.30 P.M. on the 9th and he had no swelling save over one knee and one shoulder, and he was able to sleep well. At 1 A.M. on the 10th he awoke with great abdominal pain and vomiting resulting in an alarming collapse which caused several anxious hours and required active measures. By midday the colic had gone, but a copious purpuric rash had appeared on the face and elbows. From the 12th to the 15th the colic decreased; the flying pains and swellings continued until the 13th, and the only fresh rash was purpuric on both cheeks, the left knee, arm, and hand. The 14th was the first day that could be called satisfactory; the patient felt better, there were no pains or swellings, and the skin affection was limited to small crops of purpura. At 8 A.M. on the 15th he was desquamating "all over," but by 1 P.M. his arms were thickly covered with purpura from shoulder to wrist. From this date until the 19th no new features arose, although the old symptoms of pain, swelling, and rash rang the changes on the joints and the different areas of the body, but with less vigour. On the 19th for a brief period there were no pain, no colic, no new rash, a clean tongue, and a normal temperature in the patient, and in his attendants some hope of permanent improvement, when suddenly his flushed face drew attention to the pulse and temperature. Without apparent cause the pulse had risen to 104 and the temperature to 99·4° F.; there were no abnormal cardiac signs. Up to this time the pulse had been the one cheerful feature, steady at 80 and rarely up to 90, and of good character, while the temperature had never exceeded 99°. In the next few days the temperature rose slowly to 100·4° of an evening and 100° in the morning, while the pulse-rate varied day and night between 120 and 130. On the 22nd the old symptoms took a new lease, colic and purpura, urticaria, œdema, and erythema, sudden and vanishing pains and swellings, once more perplexing us. On the 27th it was noted that the pains had left the region of the great joints and were affecting only the hands and feet, the axillæ and popliteal spaces, and the muscles of all the limbs. On the 28th there was actually no pain, swelling, or rash, only vigorous desquamation once more; but the increased pulse-rate and temperature warned us not to draw encouragement again from the suspension of the original symptoms. The patient had a restless night; at 11 A.M. on the 29th the pulse was 136 and the temperature was 99·4° and for the first time a loud systolic murmur was detected in the mitral area without any increase of cardiac dulness. The cardiac condition now became the chief anxiety; there was, from this time, no return of the original symptoms except that the skin eruptions, especially the purpura, recurred every night for several weeks. It was interesting to observe that an erythematous blush could be produced at any time on any portion of the chest and abdomen simply by letting the patient know that one's attention was directed to that portion. The pulse-rate fell slowly to about 106 by April 26th, on which day the temperature reached normal. The cardiac dulness remained unaffected. By May 4th the pulse was under 100 and on the 27th he was able to watch the school sports from his window, although he paid for the pleasure by a large crop of purpura on his legs and a slightly raised temperature—90 days after the onset of his illness; but small crops of purpura were not uncommon five months after the date of onset of his illness. The convalescence was marked by a gradual lessening in intensity of the cardiac murmur, encouraging a hope that it would ultimately disappear; but once more a new development retarded recovery. Scarcely had he begun to use his legs when distinct, but happily not severe, chorea set in, the head, neck, and upper extremities, as well as the face, being affected mostly. This condition persisted for several months but did not become serious; indeed, the boy was able to make a voyage to South Africa during the winter. I have been unable to obtain a report as to his present condition, but he is said to be well although "nervous" as before.

During the illness examination of the blood gave no information. Frequent examinations of the urine detected no renal mischief. During the first three weeks of the illness the total daily flow of urine was diminished more than there appeared reason for; it averaged, during that period, 18 ounces and ranged from *nil* to 29 ounces per diem. No benefit was obtained from the use of salicylates or any of the numerous drugs selected out of recommended remedies. Henoch's recommendation of icebags to the abdomen for the colic was of no avail. Careful nursing and feeding, together with palliative treatment of symptoms as they arose—a proceeding which often recalled the carpenter's estimate of the prospects of the seven maids with seven mops—was the method of treatment employed in this case.

No doubt the case presented a curious jumbling-up of the symptoms of "Henoch's purpura" and "purpura rheumatica" with additions. The transient earache on Feb. 23rd has been suggested as a possible source of septic infection. The suggestion is incapable of proof or disproof. Whatever the poison it appeared to act upon the nervous system.

The case differed from those described by Henoch as follows: (1) In its more continuous nature; there were no "intervals of several days or weeks or even of a year" (Henoch); (2) in the prominence of skin eruptions other than purpura, and of what can only be called "flying œdema"; (3) in the cardiac complication[2]; (4) in the chorea; and (5) in the diminished daily flow of urine.

I had the advantage of meeting Dr. H. P. Hawkins in consultation over this case.

Florence.

A CASE OF APPENDICITIS WITH GENERAL PERITONITIS.

BY W. GREENWOOD SUTCLIFFE, F.R.C.S. ENG.,
HONORARY SURGEON TO MARGATE COTTAGE HOSPITAL AND THE ROYAL SEA-BATHING HOSPITAL, MARGATE.

RECOVERY of cases of this gravity being sufficiently rare as compared with the small mortality attending operations where the damaged part is only slightly shut off, the details of this case may be worth putting on record.

The case appears to have begun on Oct. 24th, 1902, the patient, a girl, aged 20 years, being seized on that night with violent abdominal pain which was treated in the usual domestic manner without medical advice by the application of hot fomentations, with the result that the pain subsided next day, and a similar attack having occurred 12 months before which had cleared up satisfactorily it was thought that the trouble was practically at an end. The patient was able partially to go on with her housework; she, however, remained constipated and slight pains in the

[2] Compare a case of purpura described by Dr. C. W. Buckley, THE LANCET, July 20th, 1901, p. 132.

right ileo-cæcal region persisted; she therefore took a large dose of castor-oil on the afternoon of the 28th with the result that the bowels acted freely, but the pains returned with greatly increased severity and there were several attacks of vomiting. The girl, of course, was sent to bed again and Dr. A. Warwick Brown was called in late at night. He at once recognised the case as one of severe appendicitis and arranged for her removal to the Margate Cottage Hospital next day. He saw her next morning and finding that the area of tenderness had greatly increased and that the girl was distinctly worse caused her to be taken to the hospital with great care on an ambulance. She was seen by me an hour after admission. There were then well-marked signs of general peritonitis, the pulse was over 180, the temperature was 101° F., the abdomen was rigid all over, and no movements were visible with respiration, which were shallow and over 40 to the minute. There were occasional ineffectual attempts at vomiting. The girl was too bad to elicit where the area of greatest tenderness was to be found, and in view of her collapsed condition we considered the outlook to be distinctly unfavourable.

An operation was decided on and carried out as rapidly as possible, Dr. Brown administering chloroform and Dr. R. Thomson assisting me. The usual oblique incision over the region of the appendix was made and on opening the peritoneum a quantity of thin pus escaped; this was not offensive and there were no adhesions. The cæcum and appendix which was behind it and directed inwards were exposed, and round the base of the cæcum there was some thick white lymph, evidently of some days' standing, and a piece of swollen, inflamed, and œdematous omentum of the size of a visiting card was adherent to the appendix, which was itself swollen, intensely injected, and perforated at its tip. It was thus quite clear what had happened: the attack had started five days before and the inflamed area was being shut off in the usual manner, but the morbid products had been let into the general peritoneal cavity as the result of the purgative and the consequent violent peristalsis. The appendix and damaged omentum were rapidly removed and an incision two inches long was made in the middle line; through this a large glass irrigator nozzle was passed and a quantity of thin odourless pus welled up from the bottom of Douglas's pouch. A stream of hot saline solution was then directed through the tube and made to flow out through the lateral opening until the solution returned quite clear, when a large rubber drainage-tube was passed through the median incision reaching to the bottom of the pelvis and a similar tube was passed upwards through the lateral incision by the side of the cæcum. Both incisions were then lightly plugged with sterile gauze and left wide open, no sutures being inserted. The usual sterile dressings were applied and the patient was got back to bed as rapidly as possible. She stood the operation well, it having taken 40 minutes. On the next morning there was a marked improvement in the condition of the patient, the temperature had fallen to 99° and the pulse to 110 and there had been no more attempts at vomiting. There was a fair amount of discharge from each tube and during the night of the operation and the following day the dressings were frequently changed; the gauze plugging was changed at the end of 24 hours. On the 31st, two days after the operation, the improvement continued; the temperature was 99° and the pulse was 100. The rigidity had entirely, and the tenderness nearly, disappeared; the abdominal walls moved freely with respiration; and the discharge from the tubes having practically ceased they were removed 48 hours from the time of operation. The wounds were after this lightly plugged twice daily until no longer necessary, and from then to the time she left the hospital, four weeks later, with both wounds practically healed, her return to convalescence was uneventful and uninterrupted.

I regret that a bacteriological examination of the pus was not made, but both symptoms and appearances pointed to one of the worst forms of septic peritonitis and I hardly dared to hope for a recovery. Possibly it was due to the fact that the intestines, with the exception of the washing-out, were disturbed as little as possible. There is no doubt that their removal for cleaning and consequent handling must add greatly to the shock and so places the patient's tissues at a disadvantage in dealing with the organisms that are certain to be left behind in spite of the most careful "toilet." Leaving the wounds open in these acute cases not only facilitates drainage but has another great advantage—the patient is sooner off the table and the period of convalescence, if the wounds are carefully dressed, is very slightly prolonged. The other factor in the girl's recovery was the promptitude of my friend Dr. Brown in advising surgical interference, as even with all the publicity afforded to the disease in the last few years the aid of active surgery is too often invoked too late.

Margate.

HÆMORRHAGE IN PREGNANCY: A CASE OF CENTRAL PLACENTA PRÆVIA.

BY H. T. M. WHITLING, M.B., B.S. DURH., M.R.C.S. ENG., L.R.C.P. LOND.

ON Nov. 15th, 1902, the nurse in attendance on a married woman sent for me at 7 A.M., stating that labour pains had commenced about three hours previously and that they had been attended before and during her (the nurse's) presence with alarming "flooding." The patient, aged 40 years, was a multipara, with five children, whom I had twice previously attended at confinements (once for twins) and whom I knew to be generally quick in labour and the possessor of a large pelvis and an unrepaired ruptured perineum dating from her first confinement, which gave plenty of vaginal room as it extended rather far back towards the rectum. When I arrived there were numerous signs—such as clots, &c.—on the bed of a severe hæmorrhage and a utensil was nearly half filled with fresh blood which had just been passed while micturating.

On examination per vaginam the os was found to be slightly larger than a five-shilling piece and was apparently soft and easily dilatable. Blood was flowing freely and my finger perceived the almost unmistakeable "boggy" soft sensation caused by a presenting placenta. The membranes were intact and bimanually I made out the back of the fœtus to the right and the limbs to the left of the uterus; the vertex was right occipito-anterior. Having swept two joints of my examining finger round inside the os uteri and thereby separated the placenta as far as possible, I found that without passing my whole hand into the vagina and through the os I should not be able to reach the edge of the placenta to rupture the membranes, so I determined to tear straight through the placenta itself, seize a leg or foot, and to turn quickly, or, if the head was found low down, as I thought to be the case, to apply forceps and to deliver rapidly; for celerity in the latter procedure I knew that the pelvis and vagina afforded plenty of space and no obstruction and forceps had been used by me before.

Withdrawing my hand I prepared a douche of izal and water at a temperature of 115° F., injected five grains of "ergotin aseptic" hypodermically into the gluteal muscles, and got my forceps ready. Pains were now fairly severe and bleeding was free, but the general condition was still not very bad and as my whole attention was necessary for other matters chloroform was not used, the patient remaining quiet and obedient. Re-inserting my hand into the vagina I placed the first and second fingers on the presenting surface of the placenta and, fixing the body of the fœtus externally with my left hand, with very slight resistance I tore through the placenta and, passing all my fingers through and widely enlarging the tear to give room, I felt the head presenting and strongly forced down by uterine action *a tergo*. Changing hands, and dismissing all ideas of attempting podalic version, I rapidly applied my forceps and delivered the fœtus exactly three and a half minutes from taking up the first blade, bleeding ceasing for the first time when traction commenced. Passing up my hand without any delay as the child's legs escaped I removed the placenta, firmly compressing the uterus with my left hand. The placenta came away in the hollow formed by my fingers and the membranes dragged after. Then two hot intra-uterine douches of solution of izal were given and with the uterus contracting well no further hæmorrhage occurred.

The child was, as was fully expected, dead and of apparently quite full weight and size. The placenta was very large, thick, and soft, with the aperture made by me for the passage of the hand and fœtus almost exactly in the centre, judging by the fairly equal thickness of its substance forming now the circumference of the aperture. Its

apparently largely spread-out attachment to the uterine surface doubtless accounted for the edge not being felt by the passage through the os of two phalanges of my finger. The woman was not blanched or exhausted to the extent which might have been expected and had borne the whole of the most trying operation bravely, which was much more quickly performed than might appear from its description in writing.

In this case a departure was made by me from the instructions of text-books—to rupture the membranes at the edge of the placenta and to perform version by grasping the first foot met with. But the placenta was one of the very largest I have ever seen and there was my previous experience of her confinements to guide me—namely, that there was no pelvic deformity or flattening, the os was usually quickly dilated, an unrepaired perineum existed, and that the patient possessed great courage and self-control—hence I preferred to perforate the placenta and, finding the head low down in the pelvis with firm uterine contractions, extracting rapidly with forceps to attempting podalic version.

Recovery was uneventful, the temperature and lochia were normal, and all symptoms of anæmia quickly disappeared with good food and nursing.

Husbands Bosworth, Rugby.

NOTE ON "RELAPSES" IN SCARLET FEVER.

BY A. BANKIER SLOAN, M.D. GLASG.,
ASSISTANT MEDICAL OFFICER, METROPOLITAN ASYLUMS BOARD FEVER HOSPITALS, AND LATE ASSISTANT MEDICAL OFFICER TO THE BUCHILL FEVER HOSPITAL, GLASGOW.

MY attention was attracted by a note in THE LANCET of Nov. 29th, 1902, p. 1458, on a Case of Scarlet Fever followed by an interesting Relapse, by Dr. Henry Fraser. On looking up the annual report of the Metropolitan Asylums Board for 1901 I find that "relapses" occurred in 154 out of 14,143 cases of scarlet fever, or in 1·09 per cent. That "relapses" do occur, I think, is admitted by practically all competent authorities, and I scarcely think that Dr. Fraser will find "many" men who have seen much hospital work deny the fact. Personally, from my own limited experience I have no doubt that they do occur. As it happens I have at the present time two typical cases under my care.

CASE 1.—A girl, aged five years, was admitted into the Western Fever Hospital on Oct. 7th, 1902. She had sickened on the 6th and the rash had appeared on the following day. When admitted the tongue was moist, clean, and red and showing prominent papillæ; the mucous membrane of the palate and fauces was injected and the tonsils showed pultaceous exudate; there was a typical, general, punctate erythema; the temperature was 99° F. On the 10th right otorrhœa began and on the 20th it was noted that she was desquamating typically. On Nov. 7th, after having been out of bed for some days, she developed a general, bright, punctate erythema; her temperature was 99·6°; her throat was distinctly injected and her tongue was red. On Dec. 4th (being the sixtieth day of the disease) I specially examined her and found that she was going through a second typical general desquamation.

CASE 2.—A boy, aged four years, was admitted into the Western Fever Hospital on Nov. 4th, 1902. The history was that four weeks previously to admission he had suffered from vomiting and diarrhœa, and that from that date up to the time of admission he had had rhinorrhœa. On admission he was desquamating freely on the hands; he had excoriated nostrils and a profuse rhinorrhœa; the throat was slightly congested. He was well and had been out of bed for some days when on Dec. 2nd his temperature rose; he developed a bright, general, punctate erythema, the throat became swollen and injected, and the glands at the angle of the jaw were tender and enlarged. The maximum temperature was 102·4° F. The purulent rhinorrhœa had recurred and his throat was now rather "dirty."

Both these cases I consider undoubted relapses. I have also under my care another case which I look upon as a "relapse," but as the original desquamation was not profuse I do not detail it. I do not care for the term "relapse" in these cases as I have the feeling, although it may be entirely erroneous, that the majority of these cases occur through re-infection from without and not from auto-infection. On this account I prefer the term "second attack." Doubtless, however, true relapses (cases due to auto-infection) do occur. I should like very much to know if "relapses" are often seen in general practice, as I think that their absence would go a long way to prove that the majority of the cases under discussion are "second attacks" and not relapses in the true sense.

In connexion with this subject I should like very briefly to refer to another class of cases seen occasionally in hospital which differ from the cases above discussed in that they do not desquamate after the first attack. They are what one might call "mild scarlatinal infections" as against scarlet fever. Such cases are admitted with a history of slight sore-throat, transient rash, and slight malaise. On admission to hospital they usually show a normal temperature. They do not desquamate. However, if put in a scarlet fever ward they develop scarlet fever, not immediately after admission, but about three weeks later. The following is a case in point.

CASE 3.—A boy, aged five years, was admitted to the Western Fever Hospital on Sept. 1st, 1902. He had a slight shivering on August 31st and slight sore-throat. On Sept. 1st, the day of admission, a rash was said to have been seen. On admission there was no rash; the temperature was 99° F., the mucous membrane of the fauces was congested, and the tongue was coated and had prominent papillæ. He did not desquamate at all although watched carefully. On the 27th he developed a typical attack of scarlet fever, having a bright rash with a temperature of 103°. He subsequently desquamated freely. In connexion with this case I would specially point out that a sister of this patient was admitted on the same day as he was and that she desquamated typically in the ordinary course. The facts that the boy's sister had scarlet fever and that he did not develop scarlet fever in the ward till three weeks after admission point to his having acquired a certain immunity through the first transient illness and if so it must have been of the nature of scarlet fever.

Fulham, S.W.

A CASE OF AN UNUSUAL NUMBER OF GALL-STONES; CHOLECYSTOTOMY; RECOVERY.

BY C. A. S. RIDOUT, M.B., B.S. LOND., L.R.C.P. LOND., M.R.C.S. ENG.,
HOUSE SURGEON TO THE NORTH STAFFORDSHIRE INFIRMARY, STOKE-ON-TRENT.

THE following case is one of considerable interest owing to the great number of gall-stones removed at one operation from the gall-bladder. I can find no record of a greater number having been similarly removed and therefore I venture to report the case.

A married woman, aged 43 years, was admitted into the North Staffordshire Infirmary on Dec. 3rd, 1902, under the care of Dr. G. Stokes Hatton, senior surgeon to the infirmary, suffering from abdominal pain and jaundice. As history it was stated that the patient was quite well until five weeks previously when she was seized with a severe attack of pain at the bottom of the back and in the right hypochondrium, accompanied by faintness, sweating, and sickness. The attack lasted acutely for three days, but she had had pain off and on ever since and from Nov. 29th she had been jaundiced—i.e., the jaundice was first noticed four days previous to admission. She stated that she had had many previous attacks of pain of a similar nature and that she had been losing flesh for the past six months. The patient was the mother of two children and she had had no miscarriages and she menstruated regularly.

On admission, the patient was a thin-faced woman, deeply jaundiced, both skin and conjunctivæ being markedly affected; the tongue was furred and dry and the skin was dry. The pulse was 120 and feeble; the respirations were 28 and quiet; and the temperature was 102° F. and tending to remit. The urine was acid, with a specific gravity of 1014 and a faint trace of albumin; it contained no sugar and was deeply stained with bile. The bowels were opened by aperients; the fæces were clay coloured. The lungs were natural, the heart's action was feeble, and

the apex beat was diffused. There were no increase in the superficial cardiac dulness and no bruits. The liver dulness commenced at the upper border of the sixth rib in the nipple line. On inspection the abdomen was found to be deeply jaundiced. Distension was noticed to the right of the umbilicus. On palpation to the right of, and extending for two or three inches below the level of, the umbilicus was a tender, elastic, tense resistance, roughly triangular in shape, merging above and on either side of its base with a more solid resistance, presumably the liver. On percussion the above regions were both dull. The physical signs thus pointing to some obstruction of the common bile duct exploratory laparotomy was advised.

On Dec. 6th Dr. Hatton made an incision in the linea semilunaris on the right side over the swelling and on opening the peritoneal cavity he discovered a much distended gall-bladder, bearing signs of an acute local inflammatory condition and adherent above to a portion of great omentum. Cellular blanket cloth swabs having been packed around the lower and outer aspects of the gall-bladder, an incision was made into it and a quantity of bile, at first purulent but later almost normal in character, was evacuated. The cavity of the gall-bladder was then found to be full of smooth small faceted calculi, averaging about the size of a large pea, of which 449 were removed. The gall-bladder was then sutured to the abdominal parietes and a drainage-tube and iodoform gauze-plug were inserted; the upper portion of the wound was closed with silkworm-gut sutures. Owing to the length of the operation it was not deemed advisable to explore the gall-ducts at this time.

The patient bore the operation well and was anæsthetised with ether. The after progress was very satisfactory; the jaundice lessened and disappeared. The tube was removed on Dec. 8th and the stitches on the 16th. Two more calculi of small size were passed, one on the 12th and the other on the 27th, bringing the total up to 451. The biliary fistula slowly closed, normal bile being passed but lessening gradually and on the patient's leaving the infirmary on Jan. 12th, 1903, all that remained was a button of granulations with slight exudation of bile.

Stoke-on-Trent.

A CASE OF COMPOUND COMMINUTED FRACTURE OF THE SKULL WITH HERNIA CEREBRI; OPERATION; RECOVERY.

BY LLEWELYN LEWIS, M.R.C.S. ENG., L.R.C.P. LOND.

A BOY, aged 11 years, was seen at his home at 11.30 A.M. on April 3rd, 1902. The mother stated that he had been kicked by a horse one and a half hours previously and that he had lost a tremendous quantity of blood. Previously the boy had been healthy and strong. The father of the boy was a miner living in a small cottage of two rooms. The family history was good. When first seen the boy was lying on a settle. His face was blanched and blood was running from the right side of the head above the ear. He was in a collapsed condition and unconscious. The pulse was very small.

On examination a lacerated wound was found, one inch in length, situated two and a half inches from the root of the zygoma, four inches from the middle of the bregma, four and a half inches from the middle line of the forehead, three and a half inches from the upper edge of the mastoid process, running horizontally, the centre of the wound being in a line one-eighth of an inch in front of the external auditory meatus. Brain substance was oozing out. Palpation revealed a compound fracture of the skull, the lower part of the bone being driven in and the upper edge of the bone projecting.

The hair was shaved around the wound and the scalp was thoroughly cleansed with a 1 in 2000 solution of biniode of mercury and dressed with antiseptic wool. His parents were advised to remove him to the hospital and the seriousness of the case was pointed out to them. Up to this time the history is as given to me by Dr. W. Evans, who was then assisting me in my practice. On the following morning a message was received by me asking that something might be done for the boy, as the mother would not allow him to be taken from home. At 1 P.M. (27 hours after the accident) the boy was seen and he was then in the same position and condition as on the previous day. At 5 P.M. (31 hours after the accident) Dr. Evans and I saw him and there was no difficulty in concluding that the case was one of compound fracture of the skull with protrusion of brain matter. The boy was at this time in bed in the one living room of the house. He had to some extent recovered consciousness but was very dazed and looked ill. He was at once put under an anæsthetic and the right half of the scalp was shaved and made as aseptic as possible. A semicircular incision was made through the scalp covering the area of injury. On reflecting this flap more brain matter was seen to be oozing out of the cranial cavity and it was seen that the fracture was comminuted and that the posterior half was forced down and its edge deeply driven into the brain. The anterior part of the fractured portion was also broken up into several pieces, some being forced into the brain. Being unable to remove the fragments of bone a trephine was applied to the sound portion of the skull on the upper edge of the fracture and an almost complete circle of bone was removed. A lever was then inserted under the depressed fragment, but as this did not enable me to remove it, a strong polypus forceps was used and the bone at the posterior of the fracture was wrenched out and raised above the level of the skull. In endeavouring to replace this it was found that the portion was now too broad to fit into its original place, by the loosening of the suture between the parietal and squamous portion of the temporal bone; the fragment was therefore entirely removed and this, with the other fragments, was placed in a normal saline solution at a temperature of about 100° F. On further examination of the parts portions of brain matter were discovered to be so injured that it was deemed necessary to remove them and this was done by the aid of scissors. The brain and surrounding parts were then thoroughly cleansed with a 1 in 60 solution of phenic acid, the dura mater was brought together and the pieces of the skull were then sawn into smaller ones and filled into the space like tessellated pavement. A drainage-tube was passed down to the fracture, the scalp was brought together with fishing-gut sutures, and the whole was dressed with perchloride wool.

By the time we had washed ourselves and the instruments the boy had recovered consciousness and from that hour his intellect has been perfectly clear. His temperature did not once rise above normal and with the exception of a little swelling over the left eye, the recovery was uninterrupted. The drainage-tube was removed on the fourth day and the whole wound quickly healed by first intention. The skull is now solid and all the pieces of bone have united to each other. There was on no occasion any symptom of paresis in any organ or muscle and the pupils remained normal throughout and responded to light and accommodation. His hearing was not in any way impaired. There has not been any symptom of brain trouble since and the boy is as formerly.

The following three points are worthy of consideration: (1) the recovery in a most insanitary environment, the room in which the lad was lying being the only living room of a family of nine, the work of the household being carried on all the time; (2) the absence of any symptom of impairment, either mentally or physically; and (3) the excellent union of the sawn particles of bone which were immersed in saline solution for a period of not less than one and a half hours. From measurements taken it is assumed that the region injured was part of the temporo-sphenoidal lobe.

Neath.

LONDON TUBERCULOSIS SANATORIUMS. — At a meeting of the Metropolitan Asylums Board on Feb. 7th letters were read from the Shoreditch, St. Marylebone, Paddington, and Stoke Newington borough councils stating that they agreed with the suggestion of the Kensington borough council that the Orchard and Joyce Green small-pox hospitals should be set apart for the treatment of tuberculous persons. Some months ago the Bermondsey borough council, after circularising the other councils of London on the same subject, found that ten were in favour of sanatoriums being provided by the Metropolitan Asylums Board; five approved of the principle of the need for the open-air treatment of tuberculous patients but were not agreed as to the authority which should make the provision; and 11 remained indifferent. On that occasion the Board decided to wait until the borough councils came into line and a year was allowed for that purpose. At the meeting on Feb. 7th, however, the letters gave rise to some discussion and notice of motion was given that the whole subject be reconsidered at the next meeting of the Board.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Four Cases of Acute Septic Inflammation of the Throat, with Bacteriological Report.

A MEETING of this society was held on Feb. 10th, Mr. ALFRED WILLETT, the President, being in the chair.

Mr. P. E. W. DE SANTI read a paper on Four Cases of Acute Septic Inflammation of the Throat, with Bacteriological Report. He said that the present paper was a sequel to a contribution by Sir Felix Semon to the Fellows of the Royal Medical and Chirurgical Society on April 23rd, 1895, and entitled "On the Probable Pathological Identity of the Various Forms of Acute Septic Inflammations of the Throat hitherto described as Acute Œdema of the Larynx, Œdematous Laryngitis, Erysipelas of the Pharynx and Larynx, Phlegmon of the Pharynx and Larynx, and Angina Ludovici." Since the publication of that paper he had determined to keep careful records of any cases of acute septic inflammations of the throat that might present themselves to his notice, particularly as to their bacteriology. Since 1895 he had been able to observe four such cases and the notes of these cases were given in their order of ascending severity. Case 1 was that of a man, aged 48 years, who came under the care of Mr. de Santi at Westminster Hospital in 1899 with a deep-seated and extensive abscess of the right cervical region and a discharge of pus from the right external auditory meatus. Pressure on the abscess caused pus to well out of the external auditory meatus; a perforation of the deep digastric aspect of the right mastoid was diagnosed and the mastoid abscess in the neck was opened up and the diagnosis was verified. The patient went on well for nearly three weeks when he suddenly developed cutaneous erysipelas of the left cheek; this rapidly spread to the rest of the face and neck on the left side and then across the midline to the right face and neck: he also had extensive patches over the back down to the lumbar region. Soreness of the throat was complained of and examination revealed a bright red swelling of the posterior pharyngeal wall, soft palate, and uvula. Cultures from the throat showed streptococcus pyogenes and a few staphylococci. 10 cubic centimetre doses of anti-streptococcic serum were given three times during the ensuing 22 hours when the rash had almost entirely disappeared, the throat condition cleared up, and the temperature had fallen to 99·2° F. The patient made an excellent recovery. Case 2 was that of a man who complained of sore-throat and swollen cervical glands. Examination revealed intense redness and swelling of the right tonsil, the whole of the soft palate and uvula, and dark red swelling of the posterior pharyngeal wall; there was also slight œdema of the epiglottis. The temperature was 104·6° F. and his general condition was bad. There was no history of anything likely to cause the throat trouble. The urine, heart, and the lungs were normal. The patient refused admission to the hospital. Swab cultures from the throat showed streptococcus infection. The further history of the case was unknown. Case 3 was that of a man who complained of sore-throat, loss of voice, and dysphagia of from two to three days' duration. Examination revealed acute gangrenous inflammation of the lower half of the uvula and acute œdematous inflammation of the soft palate and to a less degree of the tonsils. There was also extensive œdema of the left ary-epiglottic fold. The patient's general condition was bad; the temperature was 101·2° F. He was admitted to hospital. Swab cultures showed the presence of the streptococcus pyogenes. A dose of 20 cubic centimetres of anti-streptococcic serum was at once injected and pure carbolic acid was rubbed into the uvula; five hours after the injection the patient, who could not swallow before, was able to do so and felt much better in himself. No further injections were necessary and the patient made an uneventful recovery. Case 4 was that of a man, aged 21 years, who was admitted to the hospital with sore-throat followed by a swelling in the neck. When first seen the patient was partly unconscious, had great pain and difficulty in swallowing, and great pain over the heart. The temperature was 101·4° F., having been 103° during the night. His general condition was very bad. Examination showed acute septic pharyngitis, deep glandular inflammation, and pericarditis. The mucus from the throat and the fluid evacuated from the glands showed on examination, both in cover-glass specimens and upon cultivation, mainly streptococcus pyogenes. 10 cubic centimetres of anti-streptococcic serum were injected three times during the first 24 hours and once during the next 24 hours. The effect was remarkable, the patient beginning to rally at once. He made an excellent recovery. Of the above four cases the first would be called by some "cutaneous erysipelas of the pharynx," the second "œdematous" or possibly "plegmonous pharyngitis," the third "gangrenous uvulitis," and the fourth "phlegmonous pharyngitis." Yet they were all of the same nature—namely, acute septic inflammations of the throat—in all the streptococcus pyogenes was present, and in three out of the four treatment by injections of anti-streptococcic serum was successful. In Sir Felix Semon's paper four objections were advanced by him as likely to arise with regard to his views on acute septic inflammations of the throat and neck. Firstly, "that he had given no proof that the milder cases in his series were really of septic origin and that they might well have been simple catarrhal inflammations." As no bacteriological examination was made of his cases it was open to anyone to deny the certainty of their septic origin. Of the four cases here recorded No. 1 was certainly of a mild, local character and No. 2 fairly so—at all events, it was analogous to No. 4 in Sir Felix Semon's series—yet in both these cases streptococcus pyogenes was present and the clinical symptoms were far greater than in simple catarrhal inflammation. The bacteriological examination of these cases tended to prove, therefore, that these milder cases were of a septic nature and this was strengthened by their clinical character and course. Secondly, "that the different localisation in Sir Felix Simon's cases—namely, whether originating in the pharynx, larynx, or cellular tissue of the neck—spoke against their being identical." This objection did not hold good. The different localisation of these septic inflammations of the throat depended on the resisting powers of the parts attacked, an accidental breach of surface or a pre-existing condition of catarrh rendering the parts more susceptible to infection. Thirdly, "that the variations in the fever curve in Sir Felix Semon's individual cases also seemed to point in the direction that this fever was caused by different and not identical processes." Mr. de Santi considered that the temperature in these cases was bound to vary as in other diseases, according to the resulting inflammation, whether œdematous, suppurative, or gangrenous, and according to the amount of poison absorbed. He did not, therefore, consider that objection No. 3 was valid. Fourthly, "that the fact that the exudation sometimes being of a serous and sometimes of a purulent character most powerfully combated the view that these inflammations were identical in nature." This, perhaps the most important objection, had to be combated mainly from a bacteriological point of view. The present-day opinions were: (1) that the streptococcus pyogenes and other pyogenic cocci could produce apart from purulent inflammations all other forms of inflammation such as serous, fibrinous, hæmorrhagic, and gangrenous inflammation; and (2) that the variety of inflammations resulting depended on (*a*) the quantity; (*b*) the virulence of the organism introduced into the system; and (*c*) the resisting powers of the subject inoculated. It seemed, therefore, that the conclusions were amply sufficient to account for the differences in not only the fever curve of these acute septic inflammations of the throat, but also for the differences in the kind of inflammation resulting—namely, œdematous, purulent, or gangrenous. He therefore entirely agreed with Sir Felix Semon's conclusions as regards the probable pathological identity of these acute septic inflammations of the throat and thought that the four objections referred to could be refuted in the light of the four cases brought forward by himself. He had adduced evidence of the presence of the streptococcus pyogenes in all his cases and of the identity clinically of his series with that of Sir Felix Semon, and had stated the excellent results that had occurred from the injection of anti-streptococcic serum. As regards the treatment of acute septic inflammations of the throat with anti-streptococcic serum, he wished to point out that unless the streptococcus pyogenes was found it would be worse than useless—indeed, dangerous—to give these injections.

Dr. DE HAVILLAND HALL said that he had the pleasure of opening the discussion which took place on Sir Felix

Semon's paper in 1895. He considered that the bacteriological examination in these cases was of special importance. This class of case was severe and unless promptly dealt with often proved fatal. The meaning attached to the word 'pathological identity" was of great importance. In Mr. de Santi's cases examination had shown that the same micro-organism was present in each case, but he considered that similar clinical conditions might be produced by various micro-organisms. The late Professor Kanthack had shown that ulcerative endocarditis might be due to a variety of organisms; clinically these cases were identical; pathologically they were not identical. He referred to three cases of acute infection of the throat in children which clinically had the aspect of diphtheria, but bacteriological examination showed that they were due to staphylococcic infection and not to the diphtheria bacillus.

Sir DYCE DUCKWORTH said that he had always considered that there could be all degrees of inflammation, from a slight inflammation to the severest forms of Ludwig's angina, produced by the various forms of streptococcic infection. He advocated the use of mixed sera in the treatment of these cases since it was always uncertain what variety of streptococcus was being dealt with. He had never seen any harm come from the injection of such sera.

Mr. E. B. WAGGETT pointed out that all of the cases recorded by Mr. de Santi were men in the prime of life. His own experience led him to believe that the disease usually attacked young men in good health. He related the case of a young man who during the first three days of illness had sore-throat but no symptoms of severity; on the fourth day, however, he had acute swelling of the fauces and uvula with swelling of the neck. Pus was evacuated by an incision in front of the sterno-mastoid and the patient made a good recovery. He advocated immediate operation in all such cases. The condition, he believed, depended on the virulence of the organism.

Dr. J. DUNDAS GRANT said that the symptoms of this affection were constitutional as well as local and that in some cases the local throat symptoms might be slight when the constitutional symptoms were most severe. The aspect and the voice of these patients often suggested the presence of a peri-tonsillar abscess, but on examination no such swelling could be detected and he considered that that symptom was of great diagnostic value. He related a case of rapid death from laryngeal obstruction in such a condition. He asked Mr. de Santi if he had any evidence showing that there was any danger in the use of anti-streptococcic serum. He thought that great relief was often obtained from the use of ice and he had never seen any harm result from its use.

Dr. F. J. POYNTON said that to distinguish between the varieties of streptococcus pyogenes it was necessary to employ other methods than cultivation and the consideration of morphological characters, as, for example, experimental injections and such bio-chemical tests as Marmorek's filtration test, investigations on hæmolysis, bacteriolysis, agglutination, and specific immunity. If the unity of the streptococcus was accepted in the present state of knowledge he thought that the result would be to attempt to explain clinical difficulties by referring them to an insecure bacteriology. He would accept for argument's sake this unity and turn to the explanation that was then given of the differing clinical results. They were explained by (1) the number of organisms that gained access; (2) the intensity of the virulence; and (3) the resistance of the individual. But were these sufficient? He thought not, and detailed a recent investigation he made on this subject with Dr. A. Paine. A student pricked his finger at a post-mortem examination on a case of suppurative peritonitis; he developed alarming symptoms, and was threatened with acute septicæmia. Fortunately his resistance proved successful, though an abscess developed in the axilla; from the pus they obtained an organism which might be justly called the streptococcus pyogenes. At the same time they isolated a streptococcus from a case of malignant endocarditis. Both these they placed in the same medium, a slightly acid one (not the most favourable for maintaining the virulence). Thence they transferred them to blood-agar. Two rabbits living under the same conditions and from the same litter were inoculated intravenously with these results. A small dose from the septic case produced death in 24 hours with septicæmia; a large dose from the case of endocarditis produced death in five days from malignant endocarditis of the mitral valve, the specimen of which he showed. Wherein lay the explanation of the different results? Not in (1) the number of organisms injected, for the fewer organisms produced the most fatal result; probably not in (3) the nature of the resistance, since the two rabbits were much alike; but very plausibly in (2) the difference of virulence. They carried on the original cultures in the acid medium for three weeks and repeated the investigation. One rabbit was injected intravenously from the septic micro-organism and one subcutaneously and two more in the same way with the organism from the case of endocarditis with these results. The two rabbits injected with the septic micro-organism died on the second and tenth day respectively from septicæmia; the rabbit injected intravenously with the other microbe died on the fourteenth day from malignant endocarditis of the aortic and mitral valves; that injected subcutaneously developed a firm nodule at the point of inoculation which disappeared and the animal recovered. They waited another three weeks and again repeated the investigation and this time all the animals recovered. He thought then that factor (2)—the intensity of virulence—had been altered in each case to practically a zero. He believed there was a fourth factor—viz., a tendency inherent in micro-organisms to produce special poisons, a specific toxicity which had to be reckoned with in all investigations on the unity of the streptococcal group.

Sir FELIX SEMON said that when he brought forward his paper in 1895 it had met with considerable opposition and he believed that arose, firstly, because the diseases which he had classed together had always been considered so entirely different clinically; secondly, because he had used the words "pathological identity," meaning thereby the same morbid process and not the identity of the micro organism; and, thirdly, because of the uncertain state of bacteriology at that time. He believed that any organism of the pyogenic group could produce this affection. He considered these cases of the greatest practical importance and since 1895 he had seen five cases. He agreed with Mr. Waggett in believing that the disease usually attacked individuals in good health, but they often had had sugar in the urine either at the time or at some time previously. He described the five cases, in three of which death occurred, while in the other two recovery took place. The prognosis in the severer cases was very grave. He was in favour of using anti-streptococcic serum, but as he believed there was a specificity in the sera and that the disease might be caused by any one of the pyogenic groups the sera would not be equally beneficial in all cases.

Mr. DE SANTI replied.

MEDICAL SOCIETY OF LONDON.

Discussion on the Treatment of Epilepsy.

A MEETING of this society was held on Feb. 9th, Mr. A. PEARCE GOULD, the President, being in the chair.

A discussion on the Treatment of Epilepsy was opened by Sir VICTOR HORSLEY and Dr. J. S. RISIEN RUSSELL.

Dr. RUSSELL commenced by remarking that he would confine his attention to idiopathic epilepsy—i.e., that which arose without apparent cause. The ideal to be secured was a plan of treatment which was based on a knowledge of the etiology and pathology of the affection and which aimed at removing or antagonising the cause. He would first consider whether any researches had supplied evidence that could be regarded as positive or reasonable proof of the etiology and pathology of idiopathic epilepsy. The brains of epileptics showed degenerative changes, but there was as yet no unanimity of opinion as to how far these morbid changes were responsible for the clinical manifestations of epilepsy and how far they were merely evidences of the destructive effects of the storms. Of the various theories advanced to explain the occurrence of epilepsy, that which supposed that epilepsy resulted from an auto intoxication had received most acceptance, though it could not be said to be proved. Some considered that the affection was due to the incursions of micro-organisms; but this view was equally without satisfactory proof. Indeed, in spite of all the researches that had been made they were still in ignorance of the essential cause of epilepsy. Nevertheless, treatment had been initiated which presupposed that epilepsy was due to the action of some poison which reached the nerve elements by way of the blood stream. In the hope of establishing immunity serum obtained from a patient with severe epilepsy had been injected into another

with a milder form of the affection, while in other cases serum obtained from a patient had been reintroduced on a subsequent occasion. The knowledge that acute specific diseases exerted a favourable influence on the course of epilepsy had induced some observers to attempt to obtain artificially similar beneficial effects by the inoculation of epileptic patients with filtered cultures of streptococci and staphylococci, erysipelas toxin, or antitoxin. None of these measures, however, had met with a degree of success which justified the belief that a successful plan of treatment lay in this direction. Dr. Russell was obliged to admit that the bromides were still the most potent agents for the treatment of idiopathic epilepsy. This form of treatment, to be successful, needed much attention to detail. A timidity that courted failure was too often evident in the way in which the drug was given. If bromide was to do good it must be given boldly and the physician, the patients, and their relatives must rid themselves of the usual prejudices against the drug. Many of the ill-effects that were attributed to the bromides were in reality due to the epilepsy and much that was legitimately ascribed to the bromides might be averted if the drug were given more freely in the early stages of the malady. In this way there would be a better chance of arresting the epileptic attacks early and therefore it would not be necessary to administer the drug over a period of at least two or three years. Dr. Russell had not seen any special advantage gained by giving the mixed bromides of potassium, sodium, and ammonium and his custom was to give the potassium salt. Bourneville had so persistently advocated the use of bromide of camphor and such excellent results had been published from the Bicêtre Hospital that the preparation seemed worthy of a trial. Whichever of the bromide salts was used a single dose should be given an hour before bed-time in nocturnal epilepsy and two hours before an attack was due, when the fits recurred about the same time in the day. It sometimes became necessary to give the drug twice or even three times a day, but it was, as a rule, better to increase the single dose up to one drachm or more, than to give it in divided doses several times a day. Of medicinal adjuncts or substitutes for bromide in the treatment of epilepsy borax, belladonna, digitalis, and arsenic had most justified their use. Nitro-glycerine had been advocated by Sir William Gowers. Fiechsig's method of employing opium in large doses for several weeks and then giving large doses of bromide had little to recommend it. A subcutaneous injection of morphia, however, was one of the surest means of arresting the recurring attacks in the status epilepticus. The risk of employing the drug was great and it was better to rely on hyoscine by subcutaneous injection or large doses of chloral by the rectum. Of the newer preparations, such as bromipin, bromalin, or bromocoll, the first had been most extensively tried and had been favourably received. In considering what dietetic and other measures aided in securing success for the bromide treatment, the importance of prohibiting stimulants, including tea and coffee, was well recognised. These patients did best on a diet which contained only a small amount of meat. The most important modification that had been introduced into the dietetic treatment of epilepsy during recent years was the exclusion of ordinary salt from the dietary, but this had been anticipated by Dr. J. Hughlings Jackson 30 years before. By limiting the amount of sodium chloride given in the diet much smaller doses of bromide proved effective. Attention should be paid to the arterial tension. Much might unquestionably be done to secure greater toleration of the bromide salts and to render them more effective in their action by attention to a number of details in the daily life of the individual. This was one of the ways in which epileptic colonies proved of such great advantage.

Sir VICTOR HORSLEY, in his opening remarks, expressed the belief that epilepsy should really be regarded as a symptom, not as a disease. He would classify epilepsy according to its causation into four groups. 1. Idiopathic epilepsy in which there was no gross lesion. This might be of localised (focal) or generalised onset, but neither of these classes was very suitable for operation. He had, however, operated on five cases of the former. Two of the cases had proved to be of organic origin. These showed that an exploratory operation might be justifiable in cases which had resisted medical measures. 2. In Jacksonian epilepsy there existed always a gross lesion or a toxæmia. In traumatic cases of a Jacksonian type the convulsions might be generalised or localised. In the former surgical measures were not by any means uniformly successful; in localised cases, however, trephining was very successful, particularly when the scar was in the so-called motor area; it was less successful when the scar was in the occipital region and still less successful when it was in the frontal or temporo-sphenoidal region. Cases of congenital focal epilepsy did fairly well when operated on in early childhood. Cases of neoplastic origin were, of course, very amenable to surgical measures. The fits in such cases were not always localised; they might be so generalised as to resemble idiopathic epilepsy. 3. Reflex epilepsy might arise from injury to a nerve, injury to the spine, or from traumatism (e.g., those rare cases in which touching the head had been followed by fits). 4. In hystero-epilepsy no operation should be performed, though ovariotomy and other procedures had been employed by some.

Dr. C. E. BEEVOR thought it was very difficult to trace a toxic origin of epilepsy, though the cortical cells were admittedly in a very unstable condition. He wished strongly to indorse the view that bromide could be administered with perfect safety over many years. It was not this drug but the disease which produced the mental deterioration. One of his patients had taken bromide for 20 years without harm. He generally gave the ammonium salt, but this was a minor point. The doses were best given thrice daily.

Dr. J. A. ORMEROD agreed with the remarks made by Dr. Russell and Sir Victor Horsley. He referred to the advantages of borax as a change from the bromide. Belladonna was useful for *petit mal*. Digitalis and bromide were useful in cases of hystero-epilepsy. The chief reason why bromide failed was the dose being too small. He suggested the possibility of cyclical changes in the course of idiopathic epilepsy and advocated a study of the determining causes of fits, such as worms, undigested food, fright, anxiety, mental overwork, menstruation, or the advent of puberty.

Dr. T. SEYMOUR TUKE referred to the mental symptoms which occurred in epilepsy and quoted a case in which the attacks disappeared after matrimony.

Dr. W. ALDREN TURNER had collected statistics bearing on the relative merits of different methods of medicinal treatment. Before the introduction of bromides, the late Sir Russell Reynolds, treating cases by means of silver and zinc, and basing his results on a period of four years' exemption from fits, had accomplished a proportion of cures amounting to 10 per cent.; the late Professor Trousseau in similar circumstances had accomplished 13 per cent. By the courtesy of his colleagues at the National Hospital for the Paralysed and Epileptic he had investigated 366 cases of idiopathic epilepsy treated by bromides, and basing his results on a period of nine years' exemption from fits the proportion of cures amounted to 10·3 per cent. In the latter series of investigations the period of exemption was much longer and pointed to the advantages to be gained from the administration of bromides and this coincided with Dr. Turner's own experience of the disease.

Dr. R. L. LANGDON-DOWN had found bromide of potassium most useful in major epilepsy, but in *petit mal* it was, he believed, harmful. He did not, after trial, attach much importance to the exclusion of meat.

Sir VICTOR HORSLEY and Dr. RUSSELL replied.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Hyaline Bodies in the Optic Disc.—Primary Extradural Tumours of the Optic Nerve, Krönlein's Operation.—Formation of Bone in the Choroid.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Jan. 29th, Mr. W. LANG, the President, being in the chair.

Mr. A. STANFORD MORTON and Mr. J. HERBERT PARSONS brought forward a paper upon Hyaline Bodies (*Drüsenbildungen*) in the Optic Disc, with drawings and notes of two cases and lantern slides. Out of 42 cases recorded in the literature seven had retinitis pigmentosa, others were associated with injury, nervous disorders (from simple headache to chronic hydrocephalus and insanity), and chronic interstitial nephritis, but a large number of patients were normal, with normal vision. The condition usually commenced in early life and was extremely chronic. In nearly all cases both eyes were affected but often unequally. The prognosis was good. The pathological

anatomy of the condition was discussed and various allied conditions were demonstrated. It was shown that *Drüsen* were not ordinary colloid bodies such as are found upon the choroid, though these too might occur near the disc. Exudates similar to the hyaline nodules might become metamorphosed into true bone as was frequently seen in the choroid in shrunken globes. The fate of exudates in the disc and in other parts of the eye and its dependence upon environment were discussed.

Mr. J. H. PARSONS read a paper on Primary Extradural Tumours of the Optic Nerve, with clinical and pathological notes of a case illustrated by lantern slides. There were 18 cases on record as compared with 102 primary intradural cases. The disease usually commenced before the age of 10 years, and the prominent symptom was exophthalmos, the protrusion being most marked in the axis of the orbit. The failure of vision was slow, slower than with intradural tumours, and was accompanied by optic neuritis of the "choked disc" variety, to be followed by post-neuritic atrophy. Later changes in the eye resulted from lagophthalmos. In no case was the globe invaded by the growth. Eight of the growths were undoubtedly endotheliomata, several having the characteristics of psammomata. The fibromatosis present in most cases was a feature of importance. The growths were slow and of relatively low malignancy, giving rise neither to glandular dissemination nor to metastasis. Considering this fact and that the point of danger was at the apex of the orbit, Krönlein's operation, with retention of the globe, was indicated wherever possible.

Mr. L. WERNER reported two cases of Tumour of the Optic Nerve operated upon by Krönlein's method, and referred to another under the care of Mr. H. R. Swanzy. The first case was that of a woman, aged 45 years, who had noticed swelling of the inner canthus for one year before coming under observation. When seen the left eye was two centimetres in advance of the right and directed downwards; there was no pulsation or bruit, and though the eye was blind the patient was unaware of it. The eye was anæsthetic, tension was normal, and there was marked optic atrophy seen through the clear media. Tumour of the optic nerve was diagnosed and with the optic nerve was removed by Krönlein's method, the eye being left in its place. A semi-circular incision with the convexity forwards, and extending to near the outer canthus, was made exposing the outer wall of the orbit. The bone was removed as widely as possible by dividing it with a chisel at the fronto-malar suture and just above the zygoma, extending the incision backwards to the spheno-maxillary fissure and turning the bony mass back with the soft parts. The tumour was then isolated and removed; there was a clear portion of optic nerve in front, but posteriorly the growth extended into the apex of the orbit and required removal piecemeal. There was some hæmorrhage, causing temporary protrusion of the eyeball after replacement of the flap. No sutures were put in the periosteum and no drainage-tube was inserted. The lids, which were temporarily attached, became œdematous, but on removing the dressing on the fifth day union was complete and though anæsthesia of the globe persisted the eye assumed a normal appearance, and movements, except lateral, were free. The tumour, inclosed in the dural sheath, was an alveolar sarcoma; the grouped cells being arranged concentrically, suggested endothelioma. The second case was that of a girl, aged 11 years, whose eye for 14 months had been prominent and divergent. The eye was removed with the growth, the inner aspect of the lid was scraped, and the orbit was cleared out. The growth proved to be a myxosarcoma surrounding the nerve which had entirely degenerated. Krönlein performed this operation first in 1886 and published an account in 1889. It was not difficult and had many advantages. The wedge of bone freed should be as large as possible and the division of the outer orbital plate should be accomplished before completely freeing the anterior part to avoid splintering. The risk was practically *nil*; of 73 cases one only had died. The limitation of lateral movement was temporary only and in cases where the nerve was not involved sight might be preserved.

Dr. THOMAS SNOWBALL read a paper on the Formation of Bone in the Choroid. Notes were given of a series of seven cases in which ossification had taken place in eyes that had become blind and shrunken as the result of old perforating injuries or long-standing inflammation with or without perforation. In the choroid a chronic inflammation with plastic exudation was set up, leading to degenerative changes in the various layers of this coat; the outer pigmented stroma became more or less fibrous; the inner layers, the chorio-capillaris, and membrane of Bruch were to a large extent replaced by fibrous tissue which had become organised from the exudation poured out towards the inner surface of the choroid. In this fibrous tissue the bone had developed. At the areas of bone formation the chorio-capillaris when present was never a continuous layer, but was represented by only a few vessels here and there. The lamina vitrea when seen near the focus of bone was never found external to it. This was contrary to the observations of Brailey, Fontan, and others, who described cases where the membrane of Bruch was seen as a distinct line external to the plate of bone. In most of his own cases the bone formed a layer in the usual situation—namely, around the optic nerve entrance. In one case where colloid bodies were undergoing ossification, the bone in the choroid had evidently arisen independently of them, and was a more advanced stage of development. In none of the cases was there a trace of sympathetic disease in the other eye. From a study of his own cases and those described by Knapp, Whiting, Legrange, and many others, it was concluded that ossification in the choroid arises most commonly in fibrous tissue developing in the chorio-capillaris and either replacing it or lying immediately external to it.

The following cases and card specimens were shown:—

Mr. L. WERNER: Coloboma of the Optic Nerve.

Mr. F. A. C. TYRRELL: Congenital Malformation of the Lower Eyelids.

Major M. T. Yarr, R.A.M.C.: Changes in the Macular Region following Contusion of the Eye.

Mr. E. TREACHER COLLINS: A Case of Favus of the Upper Eyelid.

Mr. W. T. HOLMES SPICER: Sections from Nævus of the Orbit.

Mr. J. H. FISHER: Aneurysmal Dilatation of the Retinal Vessels in a boy suffering from Heart Disease.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

The Sequelæ of Typhoid Fever.

A MEETING of this society was held on Feb. 6th, Mr. RICKARD W. LLOYD, the President, being in the chair.

Dr. SEYMOUR TAYLOR opened a discussion on the Sequelæ of Enteric Fever and their Treatment. He defined sequelæ as conditions occurring after the end of the febrile process, when the temperature had been normal for two days and two nights. After mentioning the difference in type of epidemics occurring in Great Britain and in other climates, he called attention to the fact that many patients stated that their health was much improved after an attack of typhoid fever. Dr. Taylor then analysed 56 cases of relapse and pointed out that in many cases a change of diet, starchy food, or an enema or purge seemed to bring about the relapse, although in many cases no cause could be assigned. Under respiratory sequelæ tuberculous disease was mentioned, latent trouble being frequently aroused to activity. Laryngitis with necrosis might occur, leading sometimes to emphysema of the neck and a condition resembling Ludwig's angina. As regards the circulatory system, thrombosis, nearly always of the lower limbs, was fairly common. The extent of thrombosis was often large and the clot might extend into the vena cava. Dilatation of the heart, with valvular incompetence, was also a sequela. Nervous sequelæ were not uncommon, such as definite insanity or some moral obliquity. Aphasia might occur and also peripheral neuritis. Besides constipation and meteorism peritonitis and perforation might be sequelæ, peritonitis being possibly started by bacilli in a gland or by infection from the appendix or from the gall-bladder. Perforation might be suspected when with a falling temperature the pulse becomes rapid, associated with the characteristic facies. Sequelæ affecting the skin, subcutaneous tissues, or bones were such as noma, gangrene, and necrosis. These were not necessarily due to the intensity of the fever but to the condition of the individual.

Dr. WILLIAM HUNTER took a wider view of the definition of sequelæ. He regarded them as complications which occurred apart from the ordinary course of typhoid fever and with

causes different from typhoid fever. He analysed the cause of death in 50 cases; 43 per cent. of the patients died from perforation, 20 per cent. from pneumonia, 8 per cent. from asthenia, and 6 per cent. from heart complications, including pulmonary thrombosis, heart thrombus, and fatty heart. In 10 per cent. lung troubles other than pneumonia caused death, hæmorrhage in 6 per cent., and erysipelas in 2 per cent. DR. HUNTER said that the mortality was greater formerly, probably in consequence of insanitary conditions. These would account for the greater severity of epidemics in some German towns.

DR. A. ELLIOT considered that from the military point of view the most important sequela of the epidemic in South Africa was disability, physical and mental. In slighter cases men were able to do light work at the base, but for a long time the hardships of trek were quite beyond their powers. In commissioned ranks the greatest stress was on the nervous system, producing slowness of cerebration and lack of decision, often rendering the patient unfit for responsible duty in the field. Of specific sequelæ the most common and perhaps the most important was phlebitis, variously estimated as occurring in from 5·6 to 25 per cent. of the cases. In epidemics in England and America the frequency was estimated at from 1·9 to 3·8 per cent. As regards the cause of the trouble, the late Dr. J. W. Washbourn suggested that it was due to tinned food and want of fresh vegetables. But these led rather to scurvy and deficient coagulation of blood. Another suggestion was the wear and tear of marching. But an equal proportion of cases occurred in the cavalry and artillery. Dr. A. E. Wright found that the coagulability of the blood was increased during convalescence from typhoid fever. This, he thought, was due to an excess of lime salts from the exclusively milk diet. But in South Africa there was a notable lack of fresh milk. Probably all that could be said was that this sequela was due to bacterial invasion of the vein walls under conditions of lowered resistance. Embolism, although comparatively frequent in thrombosis associated with influenza and gout, was markedly absent in the thrombosis following typhoid fever. Bradycardia occurred in one case, but it might possibly have been due to an excess of digitalis. Tachycardia was a much more frequent and persistent trouble. As regards the alimentary system, hepatitis with enlargement of the liver without suppuration occurred in one case. There was jaundice in one case associated with fatal pneumonia. Suppurative appendicitis closely followed enteric fever in one case. Probably it was due to an enteric ulcer in the appendix. Two cases of enteric fever immediately followed appendicitis. There was late perforation in one patient who had been on ordinary diet for a fortnight. A recent ulcer in the ileum was found to have given way. Two cases of parotitis occurred during convalescence; in both there was suppuration. As regards dysentery, out of 13 cases occurring during the disease or convalescence, six proved fatal, while six patients who had dysentery before enteric fever all recovered. There were nine cases of joint affection, including six cases of arthralgia, two cases of arthritis with effusion, and one case of purulent effusion.

MR. G. A. GARRY SIMPSON did not consider it safe to say that a patient was convalescent till the temperature had been normal for three weeks, as the bacillus might still be found in the stools and the urine.

DR. J. E. SQUIRE had no hesitation in saying that enteric fever seen by him at Suakin was identical with that seen in England. Climatic and other conditions might modify the course and symptoms of the disease, but these modifications were not in essential points. In many cases in Suakin the febrile condition continued for two or three months, but was probably due to malarial complications. He regarded thrombosis as a comparatively frequent sequela. Pneumonia was more often a complication and hæmorrhage and perforation were also rather accidents occurring during the disease. Joint affections occurred after several cases in the Soudan, chiefly those resembling malarial fever with enteric symptoms, rather than true enteric fever.

DR. W. ALDREN TURNER called attention to certain sequelæ affecting the central nervous system, such as hemiplegia and myelitis, which were clearly due to arterial changes comparable with those occurring in syphilis.

DR. E. A. SAUNDERS said that it was of great importance to separate the sequelæ due to the bacillus typhosus from those due to other micro-organisms. The case of hepatitis referred to by Dr. Elliot was probably also a true typhoid fever infection. Other sequelæ might be due to staphylococci and streptococci or to the bacillus coli. Such post-typhoid affections were abscesses—e.g., in the larynx—parotitis, boils, bedsores, and the like. It seemed probable that many of the symptoms of severe cases of typhoid fever were attributable to simultaneous affection with the bacillus coli communis.

DR. A. WHITFIELD drew attention to the frequency of severe and persistent furunculosis after enteric fever.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Paralysis of the Deviation of the Eyes.

A MEETING of this society was held on Feb. 4th, Sir T. R FRASER, the President, being in the chair.

DR. GEORGE A. GIBSON exhibited a lad who was suffering from the results of Adhesive Mediastinal Pericarditis. This was a very uncommon disease and the history of this case was briefly as follows. Six months before admission to hospital the boy began to suffer from breathlessness, with swelling of the legs and the lower part of the body. On admission ascites, anasarca, and albuminuria were found to be present. There was no clubbing of the finger nails and examination of the heart proved chiefly negative. The pulse, however, showed the typical characters of the pulsus paradoxus. With every inspiration there was a great lessening in the volume of the pulse. The liver was enlarged, reaching to the level of the umbilicus, as well as the spleen, the lower border of which reached below the costal margin. A considerable amount of cyanosis was present and the proportion of hæmoglobin varied from 93 to 105 per cent. Under treatment the ascites, anasarca, and albuminuria disappeared though the liver and spleen still remained large. The case was evidently one of adhesive mediastinal pericarditis, though the diagnosis was not above suspicion and one cardinal symptom insisted on by some writers was absent—namely, the inspiratory collapse of the veins in the neck.

DR. G. H. MELVILLE DUNLOP demonstrated two cases of Syphilitic Arthritis in children.

DR. JOHN THOMSON showed a female, aged six years, with a Peculiar Form of Giant Growth. She weighed 66½ pounds, or almost double what her normal weight ought to be. The overgrowth affected the whole skeleton. No paralyses were present, though the child walked very unsteadily and slowly. All movements were awkward and slow. She complained of no pain. Her mental condition was below the average. The onset of the disease was indefinite. The child was even at birth large and had always eaten more than other children of her age. Her mother had first noticed the great increase in size about 18 months ago.

MR. J. M. COTTERILL exhibited several pathological specimens.

DR. ALEXANDER BRUCE read a paper on a case of Double Paralysis of the Lateral Conjugate Deviation of the Eyes. The patient was a female, aged 27, who fell from the first step of an ordinary step-ladder and struck her head against the leg of a table. She was rendered unconscious by the blow and remained so for 20 minutes. Next day she suffered from giddiness, which became persistent and often caused her to stumble and generally towards the right side. There was also a feeling of stiffness in moving the eyes to the left side as also in moving the left side of the face. At this time Mr. J. V. Paterson examined her eyes and found that there was a crossed diplopia present, in his opinion probably due to paresis of the left internal rectus muscle; there was then no other affection of the ocular muscles. On examination the left palpebral fissure was seen to be a little more open than the right, due to paresis of the facial muscles on the left side. This amounted to an almost complete left-sided facial paresis. When she was asked to look towards the right the right eye almost reached the outer canthus, but with a series of nystagmic movements. While the left eye began this movement along with the right eyeball it was soon given up after a series of jerks and the left eye took up a position only slightly to the right of the middle line. There was, in brief, divergent strabismus when the patient looked to the right, all the other movements of the eyes being conserved. On looking to the left both eyes would

not go beyond the middle line. There was loss of conjugate deviation of the eyes to the left. No other nervous phenomena were present. The diagnosis at this time was paresis of the left internal rectus. She could converge the eyes perfectly. The third nucleus and the third nerve were apparently unaffected and the lesion was probably further down in the position of the sixth nucleus. This nucleus innervates the sixth nerve and also indirectly the third nucleus of the opposite side, and consequently also the third nerve of the opposite side and thus also the corresponding internal rectus muscle. When both the sixth nuclei act there is convergence of the eyes. There was evidently no affection of the pyramidal tracts and the diagnosis was thought to be an exceedingly limited lesion at the floor of the fourth ventricle, affecting the nuclei of both sixth nerves and the seventh nerve twisting round this nucleus. Eventually the right eye became more prominent and the lateral movements of the eyeballs were entirely lost. The temperature began to rise; increased headache and vomiting and great pain at the back of the neck were complained of. Shortly before death there were complete double paralysis of convergence and other symptoms of localised meningitis. Up to the age of 15 years the patient had been fairly healthy, but the subsequent family history pointed to a possible tuberculous taint. The necropsy revealed the presence of localised tuberculous meningitis at the base of the brain and a tuberculous tumour filling up almost the whole of the fourth ventricle. This tumour had nearly cut out the two nuclei of the sixth nerves and the facial nerve around it. Degenerated fibres could be traced upwards from the sixth to the third nucleus, though the third nerve remained intact with no degenerated fibres in it.—The PRESIDENT, Dr. BYROM BRAMWELL, Dr. EDWIN BRAMWELL, and Dr. D. CHALMERS WATSON took part in the discussion.

Dr. HARRY RAINY and Mr. H. J. STILES gave a lantern demonstration of skiagrams illustrating various Bone Affections in Children.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 28th, Mr. W. Bowen Davies (Llandrindod Wells) being in the chair.—Dr. C. W. Buckley (Buxton) read a paper on Local Factors influencing Climate, with special reference to Subsoil. He said that the chief influence of soil and subsoil was on absolute humidity, since different soils had different ratios of absorption and retention of water and thus the amount of water which was evaporated from the soil and which went to increase the amount of aqueous vapour in the air varied with the degree of permeability and the nature of surface drainage. Absolute humidity was a more trustworthy index than relative humidity and had an influence on diathermancy. Drainage made a soil warmer as well as drier. The different formations were dealt with in detail and their peculiarities as to soil and surface were discussed, and it was shown that the impermeable rocks where the surface drainage was good were the driest and that the clays were the wettest. The dryness of porous soils depended on the presence or absence of clay and the surface formation. Altitude slightly influenced the humidity and also the daily range of temperature and the rainfall. The rainfall was greatly subject to local influences, but on well-drained soils a heavy rainfall was an advantage, purifying the air while it did not increase the humidity. The chief contentions put forward were: (1) that absolute humidity was one of the most important factors in climate and depended chiefly on local conditions; (2) that geological formation had a great influence on humidity (*a*) by the subsoil and (*b*) by the nature of the surface; (3) that the driest soils were the impermeable rocks and the next the porous soils so far as they were free from clay; (4) that the driest formation was the carboniferous limestone; (5) that the amount of rainfall was more influenced by the relation of surrounding hills than by altitude *per se*; and (6) that altitude increased rainfall but tended to decrease humidity.—Dr. C. Theodore Williams (London) congratulated Dr. Buckley on striking out a new line in climatology, or at any rate of drawing more attention to one of its factors. There was no doubt that on the subsoil and the vegetation depended the amount of rainfall retained in a district. But the amount of humidity, absolute or relative, depended on a good many other causes. Nearness to the sea, and especially to coasts exposed to south-westerly winds, the influence of the Gulf Stream, the presence of lofty ranges on which the winds laden with aqueous vapour could impinge and thus condense their moisture, all largely influenced the amount of atmospheric humidity. Localities situated to the lee of mountains often had a small rainfall and low humidity percentage, whatever their soil. The relation of soil to humidity in England was so large a subject that it ought to be treated by districts and not generally.—Dr. S. D. Clippingdale (London) expressed general concurrence with the statements made by Dr. Buckley, but pointed out that the elevation and slope of a surface were probably more important than the nature of the soil or subsoil.—Dr. W. J. Tyson (Folkestone) referred to the difficulty of discussing the paper, as the facts quoted were for the most part indisputable. The subject laid the foundation for a further inquiry—viz., what were the diseases and symptoms affected by this inquiry? They knew that certain diseases such as ague had been practically banished from this country by suitable drainage, but there were many conditions of the body acted on by the various amount of humidity in the air that had not yet been noted.—Mr. G. H. Thompson (Buxton) said that Dr. Buckley's paper had covered the subject as far as possible in the time. There was one point—viz., the rainfall in the Cumberland and Peak districts—which he mentioned as seeming to contradict the law of altitudes; this he (Mr. Thompson) thought was easily explained by their nearness to the shores washed by the Atlantic. Another point in noting the larger rainfall in these districts was the configuration which so largely increased the area and was compensatory as well as an important factor in estimating the relative humidity. The water-holding capacity of different strata was well illustrated in Buxton, being much greater on the millstone-grit than on the limestone.—Dr. R. Fortescue Fox (London) remarked that whilst the meteorological authorities confessed themselves unable to explain the anomalies of humidity Dr. Buckley endeavoured to connect it primarily with the subsoil. This new thesis would require careful examination. The *rationale* of the influence of soil on humidity was not sufficiently clear. Dr. Buckley had not referred to soil temperatures which no doubt affected humidity. Whilst sandy soil near the surface was warmer than the overlying air, chalk was of about the same temperature and a clay soil was from one to two degrees colder. The capacity for absorption of water of the different subsoils did not appear to be proportional to the humidity. With reference to differences of soil, plants and many human beings were undoubtedly far more sensitive than any instruments hitherto devised.—Dr. Leonard Ll. B. Williams (London) thought that though purely local conditions, such as subsoil, might have some influence in determining the amount of humidity, yet there were some general considerations which could not be overlooked. High relative humidity was often regarded as essentially a bad feature in climate—a proposition which should not be received as altogether true. High humidity was very useful in some lung conditions and some kidney diseases.—Dr. Buckley, in reply, stated that the great extent of the subject prevented him from dealing with every aspect of it and he had therefore only attempted to deal with humidity and with rainfall so far as it was in relation with humidity.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society was held on Feb. 5th, Dr. W. Winslow Hall, the President, being in the chair.—Mr. Noble Smith read a paper on the Treatment of Congenital Dislocation of the Hip, with especial reference to Lorenz's method of bloodless reduction, illustrating the procedure on a child suffering from the disease. The adductors of the thigh, he said, were first put on the stretch and manipulated by chopping with the edge of the hand and rubbing. After a time the muscles gave way. Then the posterior muscles were dealt with until the foot could be brought up to the side of the head. The anterior muscles were next stretched by bending the thigh backwards with the knee bent, the patient lying on the opposite side of the body. With the patient once more on the back and the knee bent the head of the femur was gradually worked down into the acetabulum. In many cases the head of the bone could be heard slipping into the socket. The front of the capsule was then stretched by working the thigh outwards with the knee bent until with full abduction the hollow in the front of the thigh was filled up and the head of the bone could not escape. The limbs were finally fixed in a position of abduction by means of plaster-of-Paris.

Lorenz had shown that this position must be retained for six months. The thighs were then brought down half way and put in plaster again and were gradually straightened at the end of two years. As to the suitable age for reduction, for double dislocation the best results were obtained up to six years of age. For a single dislocation the time might be extended to nine years of age. Older patients must be prepared by preliminary stretching and exercise. Lorenz had cured a patient aged 28 years. Mr. Noble Smith thought that the advantages of the bloodless method were that it was a perfectly safe procedure, even such accidents as a fracture of the femur leading to no ill effects; that there was no risk of a stiff joint, with consequent crippling for life; that young children were not affected by being kept off the feet for two years, and as a matter of fact patients were not kept lying down the whole time, but pushed themselves about on a stool, which was shown. A block was also shown which was very useful for placing under the thigh during manipulation.—Mr. T. H. Openshaw had used methods of manipulation for seven years and in 30 cases had had good results in about a third of that number. Lorenz's method had been gradually improved, especially in the retention of the fully abducted position for six months. In this time probably the glutei and other muscles became shorter and prevented re-dislocation. Possibly the head of the femur might ultimately make its way through the capsule into the joint, but often the bone could not be got into the acetabulum. In the open operation, if the cartilage was not interfered with there was no ankylosis.—Mr. J. Jackson Clarke quoted a post-mortem examination on a child dying from diphtheria one month after Lorenz's operation to show that the head of the femur could be replaced in the acetabulum. The glenoid ligament was sometimes so thick as to make replacement very difficult. He called attention to friction bands underneath the plaster splints whereby the skin could be kept in good order. Difficulties in the treatment were due to parental neglect and indifference to this kind of work. In cases difficult of reduction, much ecchymosis might be caused. In such cases it was better to do a preliminary operation of stretching or dividing muscles.—Mr. P. L. Daniel said that much improvement had taken place in Lorenz's methods and he instanced the thoroughness of the work of applying plaster-of-Paris splints. He thought that cases treated by Lorenz's methods contrasted most favourably with the results of the open operation.—Mr. Peyton T. B. Beale wished to know what happened to the ligamentum teres after reduction. Did it shrink or did a new ligament form?—The President said that the subject was of importance to the general practitioner, with whom the fact that Lorenz's method did not endanger life or limb would have great weight.—Mr. Noble Smith, in reply, said that the condition of the ligamentum teres had not been verified.—Mr. P. Sidney Spokes read a paper on the Immediate Regulation of Misplaced Teeth.

CARDIFF MEDICAL SOCIETY.—The ordinary monthly meeting of this society was held on Feb. 5th, Dr. R. Prichard, the President, being in the chair.—Professor A. F. Dixon exhibited the new Projection Lantern used in the anatomical department of University College, Cardiff (by Dr. John Gordon of Glasgow), and demonstrated its method of working. He then showed in the lantern photographs by Dr. T. H. Bryce and Dr. J. H. Teacher of Glasgow illustrating the maturation, fertilisation, and segmentation of the ovum of echinus esculentus, from the preparations of Dr. Bryce.—Mr. William Sheen gave a lantern slide demonstration of Fractures of the Lower End of the Humerus in Children. He first showed a series of x-ray photographs of normal elbow-joints in children between the ages of one and a half and 16 years. He demonstrated from these the situation of the different epiphyses, their size and shape and the times at which they appeared, and called attention to the importance of not mistaking a normal epiphysis, not yet joined on, for a fracture. He then by means of a diagram indicated the common types of fracture and showed that they usually involved the diaphysis, pure epiphyseal separations being extremely rare. A series of x-ray photographs of cases recently under his care was then shown to demonstrate fracture of the external condyle and transverse fracture above the condyles. The importance of taking photographs of both the injured and normal elbow and also of taking a lateral as well as an antero posterior view was also alluded to. The symptoms and course of such cases, the possible complications, particularly deformities and nerve injuries, and the line of treatment to be adopted were briefly described.—The President, Dr. P. Rhys Griffiths, Mr. W. B. C. Treasure, and Professor Dixon commented on the demonstration and Mr. Sheen replied.—Professor Dixon exhibited on behalf of Dr. W. S. Haughton of Dublin and himself a series of stereoscopic radiographs illustrating the Structure of each of the Bones of the Skeleton. The pictures showed in a striking manner the arrangement of the lamellæ in the shafts of the long bones and in the cancellous tissue. A distinct spiral arrangement of the lamellæ could be made out in all the long bones in man and was especially marked in bones like the humerus and femur. The lamellæ in question formed right- and left-handed spirals which intersected one another. They could be seen to undergo a change in direction near the articular surfaces in such a manner as to bring the ends of the lamellæ into planes perpendicular to the surfaces of pressure. Although perhaps best marked in the bones mentioned the spiral lamellæ were also to be seen in all bones with a tubular formation and in each case they were very well developed in positions of curvature where they undoubtedly gave greater rigidity to the skeleton. Their arrangement was easily demonstrated in the ribs and also in structures like the transverse processes of the vertebræ.

EDINBURGH ROYAL MEDICAL SOCIETY.—A meeting of this society was held on Feb. 6th, Dr. S. A. K. Wilson being in the chair.—Dr. Shaw read notes on a case of Hemiplegia in a girl, 15 years of age. There was hemianopsia but no optic neuritis. There was very slight sensory disturbance. The diagnosis was that the case was one of cerebral tumour affecting the posterior part of the internal capsule and the optic thalamus.—Dr. S. Gilford read notes on a case of Extensive Cancer of the Rectum with Stricture of the Rectum. The patient had also severe aortic incompetence. Inguinal colotomy was performed, the operation being carried out under eucaine. During the operation it was observed that the handling of the parietal peritoneum caused pain and a change in the pulse, but that no such changes took place in regard to the visceral peritoneum.—Dr. A. Murray Wood read a dissertation on the Rheumatic State in Childhood. He began by pointing out the easy diagnosis of rheumatism in the adult and the difficulty encountered in diagnosing the condition in children. After discussing the influence of sex and heredity on rheumatism in childhood he went on to enumerate the various symptoms and complications that might be met with, and he showed how far these assisted in diagnosing and in giving a prognosis of the case. He said that the presence of the subcutaneous tendinous nodules was the only sure diagnostic sign in children.

ROCHDALE AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on Feb. 5th, Mr. W. Stanwell, the President, being in the chair.—Dr. W. Hirst Bateman read Notes on Two Cases of Extra-uterine Pregnancy. The first case occurred in a recently married woman and was treated at a very early stage of the pregnancy by operation on account of severe pain. Abdominal section was performed and the sac was found to be protruding from the fimbriated extremity of the Fallopian tube. The patient made an uninterrupted recovery. In the second case the patient had been married four years and there had been no previous pregnancy. Rupture of the sac apparently occurred in the second month, but the symptoms were not so urgent as to necessitate immediate operation and expectant treatment was adopted. The patient was kept at rest in bed and gradually improved. Four months later she was practically well. Dr. Bateman urged that operation was not always necessary in early cases.—The President, Mr. H. H. I. Hitchon, and Dr. W. J. Kerr believed that it was better to operate before symptoms became urgent.

UNIVERSITY OF CAMBRIDGE.—The new demonstrators of anatomy are Dr. T. Manners-Smith (Downing) and Dr. H. W. Marett Tims (King's). The delegates of the University to the Brussels International Congress of Hygiene to be held next September are Dr. D. MacAlister, Professor G. Sims Woodhead, and Mr. Nuttall. Professor A. Macalister has been appointed an elector to the chairs of surgery and medicine (Downing), Dr. D. MacAlister an elector to the chair of zoology, Professor T. C. Allbutt an elector to the chair of anatomy, Professor Woodhead an elector to the chair of physiology, and Dr. W. H. Gaskell an elector to the chair of pathology.

Reviews and Notices of Books.

The Imperial Yeomanry Hospitals in South Africa, 1900–1902. Edited by the Countess HOWE. Three vols. London: Arthur L. Humphreys. 1902. Pp. (three vols.) 734.

THIS is a very elaborate and voluminous record in three handsome quarto volumes of the work which has been done in South Africa in connexion with the Imperial Yeomanry Hospitals Fund. That a history of the movement which led to the inception and organisation of these hospitals and an account of the services which they rendered in the late war deserved to be placed on record goes without saying, but whether it was necessary for this purpose to incur all the expense which must have been entailed by the production of this very elaborate, profusely illustrated, and costly work is another matter. It is always a thankless and ungracious task to appear to cavil at anything in speaking of good work which has been undertaken in a philanthropic and charitable spirit and carried out on the whole in a highly commendable way. We trust, therefore, that if we criticise our criticism will be taken in the same friendly manner in which it is offered.

The time is coming, if it has not already come, when great and radical changes will inevitably take place in our military system. The so-called irregular forces will be more closely amalgamated with the regulars in any forthcoming scheme for organising the Imperial army of the future and philanthropic efforts and provisions that are made in view of aiding the sick and wounded in war, large as these already are, will probably have to be on a still larger and more extensive scale. It is therefore a matter for serious consideration to fix the limits and to determine the nature and quality of the provisions that should be made in these respects if we are to render really useful and efficient aid and if our aim is to be to secure in time of war the greatest good of the greatest number. That it will be impracticable to keep pace on such occasions with the growing demands of a luxurious age must, we think, be obvious; nor does it seem necessary or desirable to do so in the interest of those more directly concerned. That in any case everything required for the treatment of the sick and wounded as well as all that can add to their ease and comfort should be freely forthcoming and made available no one can doubt. Too much cannot be done for them in these respects in such circumstances. But it must occasionally happen that in the competitive trials of charitable societies and communities with one another, as in the case of the hospitalities of society, an effort is made to outdo the rest. The risk is lest, losing sight of the primary and fundamental object, such efforts may err on the side of ostentation and extravagance.

Let us turn, however, from such general reflections as these to the consideration of the volumes under review. The intrinsic value of the information contained in them—in the way of additions to medical science or of guidance in designing and organising future war hospitals and as to the nature and amount of the equipment and medical and technical materials to be provided—is not, and possibly was not designed to be, in proportion to what might be expected from their size and handsome style and "get up." The total funds—£145,000 realised by collections, Government subsidies, and other sources of income, with the sale of materials and so forth—altogether amounted to over £174,000. There was consequently no lack of money available nor was there any parsimony about the way in which these hospitals were supplied, for if all we have heard about them be true they were very fine hospitals and were furnished on a scale and with an elaboration of detail and comfort which left nothing to be desired and which probably never took place in war before. It is only right to say that the work in connexion with the inauguration of these hospitals was the work of ladies. When the great call was made upon the patriotism of the country a strong committee was formed, Her Majesty Queen Alexandra (then Princess of Wales) being president and Countess Howe, who edits the volumes under review, occupying the chair. Earl Howe acted as honorary secretary. All connected with the movement, whether at home or at the seat of war, appear to have laboured together with unselfish zeal and enthusiasm in the cause and to have put forth every effort to make the organisation and conduct of the Imperial Yeomanry hospitals a great success.

In addition to the large base hospital at Deelfontein other hospitals at Pretoria and elsewhere were opened as well as several subsidiary establishments. The undertaking was therefore organised and conducted, as the military operations extended, on a big scale. The special reports deal with each hospital or section separately, but it would be impossible within any reasonable limits of space to refer to all of them. That of Lieutenant-Colonel A. T. Sloggett, C.M.G., R.A.M.C., is an interesting and instructive one. It treats exhaustively of the base hospital at Deelfontein which was erected in the short period of a fortnight under rather more than the usual difficulties experienced by the medical authorities during the war. It may be noted that the Aldershot system of conservancy was carried out here with complete success. The medical report of this hospital is by the late Dr. J. W. Washbourn, C.M.G. There were in all 4731 medical cases with 262 of enteric fever, among 211 of which it was definitely recorded that 186 were *uninoculated* and 25 *inoculated*, with respectively 20 and four deaths, making a percentage of 16 for inoculated and 10 for uninoculated cases. It was also noted that inoculation had no marked influence in preventing or modifying the disease. The type of the fever in South Africa was much the same as in England or America. The surgical cases were 1157, with only 185 cases, however, of bullet wounds, owing probably to its being a base hospital. There were two useful innovations in the shape of departments for ophthalmic and dental work.

In the x-ray department it was found that neither batteries nor accumulators were of any practical use; the good radiographs in the report were obtained by means of a dynamo run by an oil-engine. No. 3 Model School Hospital at Pretoria was really a portion of the field hospital. There were in this hospital 3732 medical cases, the remainder (1324) being surgical with 235 gunshot wounds. Enteric fever and dysentery were the chief diseases and these were most prevalent during December and January, showing a rise during March. There were 692 cases of the former (enteric fever), with 55 deaths, and 475 cases of dysentery with 15 deaths, accounting together for about 75 per cent. of the whole death-rate of the hospital.

The work of the bearer company and field hospital is lucidly and well described in the report by Mr. C. Stonham, C.M.G. After some vicissitudes at sea, including a collision with the s.s. *Mexican* which sank, the bearer company intrained at Cape Town and went to Bloemfontein and afterwards "trekked" all over the Orange Colony and both the Eastern and Western Transvaal. There are 342 cases of gunshot wounds reported among the 1267 cases admitted into this field hospital with a very few shell wounds. The total number of admissions into the various hospitals were 13,327, being 9814 medical and 3513 surgical cases. Among the latter many interesting and instructive cases of gunshot wounds occurred and are described. The axiom "in abdominal small-bore bullet wounds do not operate" has become a practical rule in military surgery and we do not find any record of laparotomy for gunshot

wounds in the report. We may incidentally refer to a valuable paper on the use of Sulphur in Dysentery by Dr. G. E. Richmond. This has already appeared in THE LANCET.[1]

The work is abundantly illustrated with reproductions of photographs and skiagrams, all of which are excellent. The former will bring back vivid memories to readers who have been through those or similar scenes, while others who have not will be enabled to realise something of what their *confrères* have seen and done during their war service in South Africa.

A Practical Handbook of Midwifery. By FRANCIS W. NICOL HAULTAIN, M.D., F.R.C.P. Edin. Second edition, entirely revised. Illustrated. London: The Scientific Press, Limited. 1903. Pp. 253. Price 6*s.* net.

AFTER a lapse of some ten years Dr. Haultain has published a revised edition of this book which appeared first in 1893. It is intended as a practical help to the busy practitioner and as a reminder to the student of the points of practical importance in the study of obstetrics. It consists of a short *résumé* of the chief facts of midwifery put clearly and very succinctly, most of the information being in the form of tables. Such a work must of necessity suffer from its very briefness. It is impossible for the author in the limited space allotted to the various subjects to discuss the reasons for the recommendations which he makes, and as a natural consequence not infrequently statements are met with to which other teachers might well take exception. The information is, however, upon the whole good and accurate and the book forms, as is claimed for it, a very practical handbook of midwifery. It is of importance as giving what may be taken to represent the teaching of the Edinburgh School in great part, and it is interesting to ascertain the author's opinions upon various disputed points. In the treatment of eclampsia we find the administration of pilocarpine advocated, a drug the use of which in this disease, at any rate, is almost universally condemned by London obstetricians. As might be predicted, Dr. Haultain prefers the use of axis-traction forceps in the treatment of cases of delivery complicated by the presence of a flattened pelvis. Indeed, he uses axis-traction forceps in all cases of delivery by forceps and here we entirely agree with him. In considering the treatment of cases of accidental hæmorrhage we notice that he says, "Plugging the vagina has been recommended in cases of external hæmorrhage with an *actively contracting* uterus." The teachers of the Dallier School, who are the chief exponents of the treatment of external accidental hæmorrhage by plugging the vagina, recommend it in cases where the uterine pains are absent or feeble, a condition just the opposite of that quoted by the author. Possibly he is not alluding to the Dublin method. A departure from the ordinary teaching is that given by Dr. Haultain in his description of the management of breech presentations. In cases where the head is extended and delayed at the brim of the pelvis he recommends the Prague method of delivery, while in cases where the head is extended and delayed in the cavity of the pelvis he prefers the application of the fingers to the face and to the occiput of the child. Our own experience does not bear out the statement that decapitation is best performed with a pair of long, straight, blunt-ended scissors. In a really difficult case the instrument least dangerous to the mother and most efficacious is the saw-edged decapitating hook. It is surprising to find on p. 42 in the discussion of the treatment of cases of cancer of the cervix complicating early pregnancy the induction of abortion recommended. We thought the almost universal practice at the present day was the performance of vaginal hysterectomy whenever possible in such cases, a mode of treatment of which nothing is said.

Although, as we have pointed out, there are here and there statements in the book upon which differences of opinion may well exist, yet upon the whole it should prove of value to the practitioner and the student.

[1] THE LANCET, Nov. 23rd, 1901, p. 1408.

Report of the Third International Congress for the Welfare and Protection of Children, London, 1902. Edited by Sir WILLIAM CHANCE, Bart. London: P. S. King and Co. Pp. 348. Price 2*s.* 6*d.*

THIS volume will prove attractive to those who wish to review the work which is being carried on in various directions for the benefit of childhood in this and in other countries. It expresses the experience and opinions of many acknowledged authorities on questions of health, legislation, and education as they bear on different classes of children. Dr. J. F. J. Sykes, medical officer of health of St. Pancras, contributes an article on Hygiene and Sanitation in the Home and at School and points out the fact that diphtheria has enormously increased since the introduction of the Education Act, probably largely due to the aggregation of children. Doubtless infectious diseases mostly spread in schools where points of contact are numerous. This fact is becoming more and more realised. The lower age-limit for school attendance was discussed and reference was made to Dr. A. Newsholme's statistics which show that 11 per cent. of the children on school registers are under five years of age, 22 per cent. are between five and seven years of age; and 67 per cent. are between seven and 15 years of age. There seems to be a growing consensus of medical opinion that seven years should be the age fixed below which no child should be allowed to attend a public elementary school; a resolution to that effect was carried in the medical section but negatived by the congress. It was pointed out by Dr. Sykes that overcrowding in homes is the great enemy of family life; while well-constructed sanitary tenements may be the best remedy for those who must live in the towns they are not without attendant evils, and the extension of cheap means of communication with the suburbs must be looked upon as affording the best prospects for a healthy child population. A plea was also raised for the extension of school classes in cooking and housewifery.

As related to the home and the school we refer to Mr. C. Loch's paper on State and Parental Control. He says: "In so far as the sense of the reciprocal nature of the relation between parent and child is lost, improper and excessive use is likely to be made of any provision made by the State for destitute, abandoned, and neglected children. Parents then seek to turn to their private advantage the earnings and ability of their children whom they have not endeavoured to educate or control; and the child or young person is not retained sufficiently long under special training and guardianship to reap the full and lasting benefit of the education afforded him." The parent is too often anxious to be rid of a child when the child becomes a burden to him and equally anxious to secure the services and help of that child when he is sent forth from the institution. Mr. Loch moved at the congress:—

> That it is desirable that the laws relating to the control and welfare of children should be considered by a departmental committee or Royal Commission with a view (1) to prevent the influence of unsatisfactory parents on children placed under institutional care, undoing the good results of the education given to the children; and (2) lessening the temptations to parents to let their children be maintained by public authorities.

This resolution was carried.

The paper last noticed is illustrated in a very practical manner by a contribution by Mr. Robert Peacock, chief constable of the city of Manchester, on Employment of Children with Special Reference to Street-trading by Children. This shows plainly the evils which result in very

many cases from the employment of children in the streets for the purpose of earning money for their parents; the facts are clearly proved by the reports of committees appointed by the municipalities and by police statistics. In 1882 the Manchester corporation obtained an Act enabling it to deal with street-trading children, providing that no child under the age of 14 years should, unless he had obtained a certain standard of education, be employed as a street-trader after 9 P.M. in the summer and 7 P.M. in the winter. The regulations made were to the effect that all children between the age of 12 and 16 years should be entitled to a licence provided that they intended to trade in the streets of the city, that they were not unfit to trade through being sickly, blind, deaf, dumb, deformed, or mentally deficient, and that they had the consent of their parents to their being licensed. The plan has worked well and the condition of the juvenile street-traders has improved.

Dr. Francis Warner read a paper at the congress on the Physical Training of Children from the point of view of exercises adapted to produce an educative effect. Progressive free-hand exercises made by the pupil in imitation of the teacher's finger movements in combinations, one at a time, two at a time, were illustrated, the author explaining the educative effects that may thus be obtained without the use of words in dull and backward children. "Exercises in transfer movements" were thus explained. "Let a child hold out both hands; take his left hand in yours and explain to him that he is to move the fingers of his right hand in the same way as you move those in his left. Let him shut his eyes, then the action in his right hand will be an imitation of your passive movements of his left hand. Here the feeling of movement in the left hand controls and directs the action." In view of the expected report of the Royal Commission appointed to inquire as to the various methods of physical training, the precautions to be taken in its general introduction, and the adaptations of method required for certain groups of children, it is advisable that all forms of training should be considered. It was resolved at the congress—

That having regard to the important relation of physical exercises to intellectual as well as to muscular development, they should form an integral part of education; and that teachers should be specially prepared for teaching them by instruction in our training colleges.

This report is unusually interesting and readable; the various subjects touched on have been ably dealt with and throw much light upon the lines of action which it is desirable to follow for the benefit of children.

The Student's Guide to Medical Diagnosis. By SAMUEL FENWICK, M.D. St. And. and Durh., F.R.C.P. Lond., late Consulting Physician to the London Hospital, and W. SOLTAU FENWICK, M.D., B.S., M.R.C.P. Lond., Senior Physician to the London Temperance Hospital; Physician to the Evelina Hospital for Sick Children. Ninth edition. London: J. and A. Churchill. 1903. Pp. 480. Price 9*s.*

THAT Fenwick's Medical Diagnosis is a well-known and highly popular book there is no need to tell. The first edition was published by the late Dr. Samuel Fenwick towards the end of 1869 and arose out of a desire to assist students attending the medical out-patient department of the London Hospital. It was at the time original in design and admirable in construction and execution and its merits as a simple and lucid guide to medical diagnosis were speedily recognised. Since the date of the appearance of the first edition it need scarcely be said that medical science has not stood still but has been progressing with rapid strides, and a conscientious attempt to keep abreast with this progress may be traced in the numerous editions which have been called for from time to time. The present is the ninth edition and the fact speaks for itself. It is curious as well as interesting to follow the gradual growth and to notice the progressive changes that have been rendered necessary and to contrast the latest with the earlier editions, while recognising that the aim has been, as far as is practicable, to preserve a continuity of method and plan throughout. The present edition makes an excellent and very useful little book for students and practitioners. What is stated in its brief preface is fully borne out by our examination of it—namely, that the work has been entirely revised and that several new illustrations have been added to it.

Outlines of Psychology. By WILHELM WUNDT. Translated by CHARLES HUBBARD JUDD, Ph.D., Instructor of Psychology, Yale University. London: Williams and Norgate. 1902. Pp. xxii, 390. Price 8*s.* net.

PROFESSOR WUNDT'S "Outlines" does not constitute an introductory work to psychology but is, in its present form, a somewhat advanced and systematic work in which the standard of exposition is throughout high and even elaborate. A considerable knowledge of psychological and scientific terminology is needed for the due understanding and appreciation of this work. The author recognises at the outset two chief forms of psychology—the metaphysical and the empirical—and in an elaborate tabular summary he gives the various subdivisions of these. The exposition of the subject begins after his preliminary survey with an elaborate analysis of "psychical elements"—i.e., simple sensations and simple feelings. A "general sense" concerned with the appreciation of conditions of space and time is regarded as "belonging to *all* beings endowed with mind," and this "general sense" is further held to be capable of analysis into sensations of pressure, heat and cold, and pain. The discussion here is highly abstract and difficult to follow unless the closest attention is given to it. Passing next to the subject of compound sensations and feelings it is shown that all such sensations and feelings contain more than the qualities of their constituent elements—in other words, that new attributes peculiar to the compounds always arise as a result of the combination of elementary sensations and feelings. Ascending thus in the scale of psychological complexity an exposition is given of the nature of our ideas of space and of time, of emotions, and of volitional process. The succeeding portion of the work deals with the interconnexion of complex mental processes such as are commonly included under the terms "consciousness," "attention," "association of ideas," and "apperception processes," the last term being used by Professor Wundt to include a variety of psychical processes of which but little is as yet known. This section of the work concludes with a brief account of the psychological aspects of dreams, sleep, and hypnosis.

The next section touches briefly upon the psychical attributes of animals, the mental development of the child, the development of speech, of customs, and of myths, and the subject of the collective will and social consciousness. The work concludes with an account of the metaphysical concept of mind and of the principle of causality.

In estimating a work of this kind comparisons are hard to avoid. The classical "Principles of Psychology" of Herbert Spencer and the works of James and of modern authors show the inevitable influence of the principle of evolution, while the standpoint taken by modern psychological investigation is mainly biological. Professor Wundt's work, while containing many bibliographical references to investigations of this sort, is permeated throughout with the metaphysical and speculative spirit. Its tendency is to be deductive rather than inductive, to be abstract rather than practical, and it is thus less likely to suit medical readers whose requirements lie more in the direction of the inductive and the biological sciences than in metaphysical speculation. The work is a remarkable and excellent type of the older psychology slightly influenced by the new spirit.

LIBRARY TABLE.

Three Clinical Lectures on the Diagnosis and Treatment of Rectal Diseases. By F. C. WALLIS, F.R.C.S. Eng., Assistant Surgeon to Charing Cross Hospital and to St. Mark's Hospital. London: The Medical Publishing Company, Limited. 1902. Pp. 87.—These three lectures were delivered last year at the Medical Graduates' College and Polyclinic and were published in the *Clinical Journal*. They contain a very readable account of the more common lesions met with in the rectum and the treatment is described with especial fulness. While the book on the whole is representative of the general teaching of the surgery of this region Mr. Wallis is not afraid to think for himself and several original ideas are given and well supported by pathological and clinical evidence. Mr. Wallis holds that pruritus ani is nearly always due to a small shallow ulcer of the mucous membrane situated between the two sphincters, frequently in the posterior part of the circumference. He finds that the healing of this ulcer is followed by a cessation of the irritation. We are in accord with his contention that the common non-malignant ulceration of the rectum is generally not syphilitic in origin, as is often taught, but probably septic. The lectures were well worth reprinting.

Hazell's Annual, 1903: a Cyclopædic Record of Men and Topics of the Day. Revised to Dec. 31st, 1902. Edited by W. PALMER, B.A. Lond. London: Hazell, Watson, and Viney, Limited. Pp. 750. Price 3*s.* 6*d.* net.—This valuable work of reference has been published this year about a month later than usual in order to include a complete record of events for 1902, including the Education Act, the Metropolis Water Act, and the new scheme for the entry and training of naval officers issued on Christmas Day. All the permanent features of the book have been revised and rewritten and the policy of classifying and grouping cognate articles has been carried still further. Reference is made to the bequests of Mr. Cecil Rhodes and the public-house trust movement, and among other new articles are those on Christian Science, Consumption Sanatoriums, British and Foreign Copyright, London Medical Schools, Motor Vehicles, and the Nobel Foundation. There is also a valuable summary of the debates and legislation of the session of 1902, including a detailed analysis of all the principal Acts passed, all the principal Bills introduced, and the reports of Parliamentary committees and Royal Commissions. In "Hazell's Annual," indeed, is to be found the true meaning of *multum in parvo* and conciseness has been obtained without obscurity.

JOURNALS AND MAGAZINES.

The Review of Neurology and Psychiatry opens its first number with original articles on Local Panatrophy, by Sir William Gowers; on Psychiatry in General Hospitals, by Sir John Sibbald; and on the Relative Frequency of Disseminated Sclerosis in this country and in America. These are followed by abundant abstracts from foreign reviews and journals, giving an excellent *résumé* of current practical work bearing on neurology and medical psychology. The articles and abstracts are both interesting and attractive and cannot fail to give the review a healthy "send off" on what we hope may prove to be a successful career. The editor, Dr. Alexander Bruce, is himself a well-known worker and his name is a guarantee that readers of the new periodical will find their time profitably spent in its perusal. The review will be issued monthly, and the bibliography which is a feature of the contents must prove useful for purposes of reference.

Cambridge Review.—The number of date Jan. 29th is enlivened by the productions of two poets, one of whom, modestly veiling his identity under the initials "F. M. C.," has felt his soul stirred within him by the numerical disproportion between the students of anatomy and the "subjects." He has accordingly unburdened himself in a "Ballad of Cadavers" in six stanzas, humorous enough except for one dismal prophecy which we trust may not be fulfilled:—

> "When two must share an arm or leg
> And four take head and neck,
> Some forty-three per cent. may pass—
> The rest will be a 'wreck.'"

Mercy and Truth.—The January number contains an article on Medical Work among Women in Multan, in the Punjab, by Dr. Wilhelmina Eger, and an illustrated Description of Progress in Hakodate, Japan, at which place the missionary is Dr. W. W. Colborne.

HOSPITAL MAGAZINES.

St. Bartholomew's Hospital Journal for December, 1902, contains, among other interesting matter, the report of a paper read before the Abernethian Society by Dr. W. d'Este Emery on the Specific Antibodies. The paper is accompanied by eight illustrations. The following story is given: SCENE—Out-patient room. Physician (unravelling the finer points of the case): "Are you depressed in spirits?" Patient: "Yes, sir." Physician: "Why is that?" Patient: "Well, sir, since I've been out o' work I haven't been able to buy 'em."

St. George's Hospital Gazette for January contains a paper describing a Russian hospital on the banks of the Dwina. "In the matter of medicine," says the writer, "they are prehistoric." Consequently "it is difficult to decide whether to treat it (the hospital) from a medical point of view or as a subject of antiquarian research." The writer does his best to deal with it from the medical point of view. It is difficult to believe that even in this remote corner of the world notes of cases are kept in chalk. The problem of ventilation has been solved in this hospital by having no ventilation at all. The paper is thoroughly interesting.

London Hospital Gazette for December, under the heading of Random Notes concerning Stimulants, prints a very readable and instructive article from the pen of Dr. A. E. Sansom. The author concludes by saying: "If you want, as you should, to know much about brandy the writer strongly advises you to peruse carefully a report in a recent number of THE LANCET." This is the sort of commendation that is particularly flattering to us, as our investigations of food-stuffs and allied subjects are undertaken exactly with the idea of giving medical men information of a practical nature which cannot be found in text-books.

Westminster Hospital Gazette.—There is nothing better in the January number of this journal than the following, which has a familiar ring to us:—

"OUR DOCTORS.

"He must not walk his rounds, for fear his patients think him poor,
For dearly do they love to see a carriage at their door;
And if his horse is fat he must have little work to do,
And if 'tis lean the reason is he starves that poor old screw.
If he calls upon his patients every day when they are ill,
The reason is he wants to make a great big doctor's bill;
If he calls on them less frequently, thus lessening their expense,
The chances are he'll be accused of wilful negligence.
About his own afflictions he must never say a word—
The notion of a doctor being ill is too absurd!
And when perhaps from overwork he's laid upon the shelf,
His sympathising patients say, 'Physician, heal thyself!'"

BRADFORD AND WEST RIDING MEDICO-ETHICAL UNION.—The annual dinner of this society took place at the Victoria Hotel, Bradford, on Feb. 5th. Nearly 60 members and guests were present. Dr. J. Dunlop, the retiring President, was in the chair. After the chairman had given the toasts of "The King, the Queen, and the Royal Family," Dr. W. H. Horrocks proposed the toast of "The Bradford and West Riding Medico-Ethical Union." This was responded to by the President (Mr. H. Shackleton) and the secretaries, Dr. J. Metcalfe and Dr. W. Mitchell. The toast of "The Ladies" was proposed in a humorous speech by Dr. A. Bronner and responded to by Mr. W. Handcock. An excellent musical programme was then given by the ladies and members present.

New Inventions.

THE NEW FINSEN-REYN LAMP.

WHEN attending Professor Finsen's Institute in Copenhagen I found the authorities there hard at work experimenting with a new lamp that had been devised by Professor Finsen and one of his colleagues, Dr. Reyn, and after a thorough, prolonged, and satisfactory trial, both in the laboratory and the institute, this lamp has now been issued with the guarantee and authority of the Institute. The first of these lamps sent out from Copenhagen has arrived in this country and is shown in the accompanying illustration. The principle on which the lamp is constructed is entirely that of the older and larger Finsen lamp, but one patient only can be treated at a time instead of four as with the latter, thus insuring privacy in the treatment of each individual case—a point of considerable importance in England. The lamp consists of three parts—namely, the arc light, the concentration apparatus or telescope, and the compressor, the two latter being connected with a water circulating system for cooling purposes. The lamp and telescope are placed at either end of a connecting rod which in turn is mounted on a moveable stand provided with a universal movement mechanism at its upper end. The arc lamp is for a direct current of 55 volts and 20 ampères and the carbons, which are automatically fed, incline at an angle directing the rays on to the concentration apparatus. It is mounted on a pin to which it can be fastened at the necessary height by a screw, and this in turn is attached to a rack-and-pinion arranged on the connecting rod giving a forward and backward movement, so that the lamp may be placed at any required distance from the telescope. The

The Finsen-Reyn lamp at work.

concentration apparatus is much shorter than in the old Finsen lamp, being only ten inches in length and therefore easily manipulated. Near the centre it is swung on a U-shaped rest, allowing the extremities an up-and-down movement, but it can be fixed by a screw clamp when adjusted in the required position. Three lenses of rock crystal, each eight centimetres in diameter, are fixed at intervals in the telescope, the upper one being made up of three parts, fitted together to give greater concentration. Between the two lower lenses is a chamber filled with distilled water when the lamp is in use and which is changed daily. At the upper end of the telescope a cap, specially devised by Dr. Reyn, is placed, formed of two more rock crystal lenses holding distilled water between them and having round the frame in which they are set a hollow tube in which cold water, carried by a rubber tube from a tap, circulates. This keeps the distilled water from becoming too hot and protects the lenses, enabling them to stand the arc light in the closest proximity without breaking, as so frequently happens with the older lamp. Many more rays are in this way concentrated and these are directed through a water-cooled compressor held by a nurse on to the part to be treated as in the old system. A metal hood fitted to the cap protects the operator from the rays of the arc. The compressors are the same in size and shape as those used with the old lamp. The water circulating in the cap of the telescope is conveyed by a small rubber tube to the compressor and then discharged into an open cup fitted to a waste pipe, so that the operator can always be sure it is circulating properly. Two parts are therefore supplied with running water and two parts with stationary distilled water. As regards the treatment, each *séance* lasts one and a quarter hours, though a reaction is obtained from a much shorter exposure. In the treatment by other smaller lamps burning from five to 15 ampères, sittings lasting for periods from ten to 15 minutes have been adopted, but these do not, in Professor Finsen's opinion, obtain a sufficiently deep penetration and reaction to give a permanent result. I am informed that the concentration and penetration of the rays given by the new lamp are greater than from the old one, that results have been achieved more rapidly, and that they are so far of a very satisfactory character. Its cost is less in proportion when compared with the old Finsen lamp with its four telescopes; and other advantages of the present lamp will be found in (1) the lessened cost of current consumed for each patient; (2) the apparently greater rapidity in obtaining satisfactory results; (3) the fact that each patient can be treated separately and privately; (4) its mobility, limited only by the length of its electrical and water-conveying connexions; and (5) the fact that it affords greater facility for treating any part of the body than do some lamps now in use. Further advantages may show themselves later; and knowing the patient investigation that every detail receives in Professor Finsen's laboratory it is probable that the satisfactory results already obtained with this lamp in cases of lupus vulgaris will prove as permanent as the large majority of those treated by the old apparatus, but this time alone can decide.

GEORGE H. GRAHAM, M.D. Durh.

Old Cavendish-street, W.

A NON-LEAKABLE FOUNTAIN PEN.

WE have received from the Moore's Non-leakable Fountain Pen Company of 23, Fore-street Avenue, London, E.C., specimens of their fountain pens and have given them trial before reporting upon them. As a result we can speak with conviction as to their merits. They are strong and simple of mechanism. They can be easily refilled and without necessity to soil the fingers, while they can be taken to any pieces according to the furnished instructions with no trouble whatever. By an arrangement that is we believe quite new, the cap can be replaced over the nib in such a way as both to protect the nib and to close the ink reservoir. As a consequence the pen can be carried in any position without the risk of leaking; the only thing that the user of the pen has to bear in mind is that when the cap is taken off the reservoir is *open* and is only closed by pushing the pen up into writing position. If this point is always remembered there should be no risk of spilling the ink. We have tried these pens, the prices of which range from 12*s.* 6*d.* to 23*s.* 6*d.*, with both fine and broad nibs, and have found each thoroughly satisfactory.

Looking Back.

FROM

THE LANCET, *SATURDAY*, FEB. 12, 1825.

REVIEW.[1]

Elements of Medical Jurisprudence. By THEODRIC ROMEYN BECK, M.D. &c. &c. 8vo. New York; with Notes, and an Appendix, by WM. DUNLOP, Member of the Royal College of Surgeons, &c. 8vo. pp. 640. London, 1825. Anderson.

Mental alienation.—The following method of discriminating between feigned and real insanity is new to us, and no doubt also to many of our readers.

"The best mode that has yet been discovered for forcing a man who feigns madness to confess and desist, is by the use of the whirling chair, that is, a chair placed upon a spindle which revolves upon its own axis, and is turned by a wheel and crank, with the rapidity of the fly of a jack; it produces nausea even to syncope, and after two minutes of such discipline, few men can command spirits sufficient to act any part. It was by this means that M'Dougal, of Glasgow, was rendered sane when he feigned madness, to avoid being tried for sinking ships, to defraud the underwriters—but he betrayed himself to the medical men by the common fault of impostors, not having 'a method in his madness,' but mixing up the two irreconcilable characters of

'The moping idiot, and the madman gay.'"

Persons found dead.—In this chapter the author has brought together most of the opinions that have been advanced on the subject, and much of the contradictory testimony likely to arise in questions of this nature. Respecting the necessity of a *general* examination of the body of a person found dead, a curious opinion of a northern professor is quoted by the Editor.

"'When,' said he, in his lectures, 'you find any appearance sufficient to account for death, rest satisfied with that, and inquire no further; as further examination will only tend to embarrass your evidence, and render it contradictory.' We have all heard of a worthy country justice, who made it a rule never to hear both sides of a question, because, when he only heard one, he could decide without hesitation; but hearing both only puzzled him."

In other words, do not proceed too far, or your testimony may be less positive when called upon to give your opinion in a court of justice—which puts us in mind of an oration delivered last year by Dr. Gordon Smith, at a medical society, in which, among other matters, he proposed, that "in order to avoid any *appearance* of ignorance in a court of justice, a consultation of the medical witnesses should be previously obtained for the purpose of deciding on the nature of the evidence to be given," which is, in other words, for the purpose of deciding whether an unfortunate prisoner should have a fair trial or not, or whether he should be convicted of the crime charged to him, if innocent, or altogether elude justice if guilty—and this for the purpose of "avoiding the *appearance* of ignorance in a court of justice."

The notes of the editor are frequently curious and valuable, and the whole production is, in our opinion, decidedly superior to any other that has yet appeared on the subject of medical jurisprudence.

[1] A portion only has been transcribed.

FREEMASONRY.—*Rahere Lodge, No. 2546.*—A meeting of this Lodge was held at Frascati's Restaurant, Oxford-street, W., on Tuesday, Feb. 10th, W. Bro. G. H. R. Holden, M.D., W.M., being in the chair.—Bro. M. Dale Wood, M.D., was admitted to the third degree, while Dr. W. Jobson Horne was initiated into Freemasonry. A grant of a guinea to Our Brother's Bed in the Home for the Dying was voted unanimously. It was announced that the promotion of the William Harvey Chapter had been taken over by the Sancta Maria Lodge. A considerable number of brethren subsequently dined together.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 14, 1903.

The Departmental Committee on Poor-law Nursing.

IN January, 1902, the President of the Local Government Board appointed a committee of four gentlemen to inquire and to report—firstly, as to any difficulties experienced in obtaining an adequate supply of properly qualified Poor-law nurses and assistant nurses and how far these difficulties can be met; and, secondly, what regulations, if any, should be made as to the qualifications and training of probationers. The minute of appointment contained two other references relating to nursing questions with which we do not propose to deal on the present occasion. Of the four gentlemen appointed two were the medical inspectors engaged in inspecting the London and provincial workhouses respectively, the third was an assistant secretary (formerly inspector) to the Board, and the chairman was the Parliamentary secretary to the Local Government Board. It is a pity that the committee was not strengthened from outside the official circle, as its recommendations would certainly have carried more weight; and perhaps the strongest fact in this connexion is the absence of any expert on nursing, seeing that the committee was appointed to investigate questions which gravely relate to nursing.

In Part II. (*c*) of the report, after numerous qualifications which occupy seven paragraphs, the committee states: "It may reasonably be assumed that some difficulty in obtaining a proper supply of qualified nurses has been affecting about a quarter of the workhouses and infirmaries in England and Wales and that difficulty has, with a few exceptions, extended in fairly equal proportions to all classes of workhouses" (paragraph 36). But "the point the committee wish to emphasise is that notwithstanding the difficulty of obtaining nurses, and notwithstanding the almost certain increase in the number of sick in recent years, there does not appear to have been hitherto any general failure to maintain what has been considered a fair proportion of nurses to patients" (paragraph 40). "On the other hand, a condition of affairs which involves some 171 workhouses and infirmaries in genuine difficulty in obtaining nurses, must indicate a considerable amount of administrative embarrassment and if allowed to continue or to spread might also result in serious injury to the interests of a large proportion of the sick poor in workhouses" (paragraph 42). It is somewhat difficult to reconcile these paragraphs, but a perusal of the evidence appears to us to show an overwhelming preponderance of testimony to the existence of a very general and serious difficulty, one which to our knowledge has existed for many years, in obtaining properly qualified nurses for the Poor-law service, not confined to, but chiefly affecting, the smaller institutions under the control of the Local Government Board. The causes of difficulty are next discussed, and while giving too much prominence to temporary causes, such as the Boer war and recent epidemics, the committee hardly seems to appreciate the permanent causes.

In Part III. the committee discusses the training of probationers and the qualifications of superintendent nurses, and after dismissing as unworkable the establishment of central training schools for nurses it recommends that for the future the training of probationers should be allowed in two classes of training schools, to be called respectively major and minor training schools. To the plan proposed for the major school no objection can be raised; it is in fact that which has been successfully in vogue for many years. The plan proposed for the minor training schools merits the serious consideration of the medical profession and all who are interested either in workhouse administration or general nursing. That it is receiving such consideration is shown by the important memorial which was presented to the President of the Local Government Board last week. The effect of paragraph 90 would be that the sick wards of small country workhouses would be recognised as minor training schools, provided they had a superintendent nurse and a visiting medical officer who would engage to devote "some of his time" to instructing probationers, and provided that "systematic instruction were given by the superintendent nurse *or* [the italics are ours] medical officer which complied with a general plan to be laid down by the Local Government Board." At the end of 12 months' training in such an institution the probationer would be eligible to receive a formal certificate of training, and the committee further recommends (paragraph 91) that she "should be considered and called a 'Qualified Nurse' and should be recognised by the Board as a proper person to fill any post in the nursing service ..... where the supervision of a Trained Nurse is available." We have referred in a previous issue of THE LANCET[1] to the unsuitability of such institutions as training schools for young women. Surely this 12 months' training is a retrograde step and the title of "Qualified Nurse" is here a misnomer. And since there is nothing to restrict these persons to the Poor-law service they (and especially those who were regarded by their seniors as less promising) would be launched into the service of the general public. Moreover, we venture to think that this proposition of the committee would frustrate its own ends, for the medical profession and the public would soon learn to recognise the worthlessness of such a training and such a title, and the Poor-law nursing service would soon be brought into still further disfavour and would be rendered still less attractive to those who wish to earn their living as nurses qualified in fact as well as in name. Nothing could be more retrograde than such a course as that which the committee here suggests. The real solution of the difficulty of obtaining an adequate supply of nurses consists in raising, not in lowering, the status of the Poor-law nursing service, and this can only be done by raising the standard of education required, increasing the salaries offered to an adequate sum, and improving the conditions of service and environment of the Poor-law nurse.

This question, from one point of view, is largely a matter

[1] THE LANCET, Jan. 24th, 1903, p. 253.

of supply and demand. Good nurses are not forthcoming at the wages and conditions offered. The Metropolitan Asylums Board was confronted with the same difficulty in its fever hospitals. It solved the difficulty by offering higher wages and better conditions of service and the Local Government Board would be well advised to adopt similar means. In the interests alike of the medical profession, the public, and the Poor-law nursing service we feel bound to enter our protest at the earliest moment against a retrograde proposal. A large section of the public is becoming impatient at the non-solution of this important question of workhouse nursing. The constitution of this departmental committee was unsatisfactory, its recommendations carry but little weight, and the time has come for a Royal Commission to be appointed in order thoroughly to investigate the matter.

The Treatment of Intussusception.

A TRULY remarkable series of cases of intussusception was recently met with at the London Hospital, where within nine days seven cases of this condition were admitted into the wards. They were all under the care of Mr. HUGH M. RIGBY who contributed a detailed account of them to THE LANCET of Feb. 7th (p. 364). One of the seven patients was in a moribund condition when admitted and died four hours later, and therefore we need hardly consider that case, but the remaining six patients were submitted to operation and of these five recovered. The one fatal case required resection of a portion of the bowel and this complication of the operation for intussusception is universally recognised as of the gravest prognosis. Within recent years the whole question of the treatment of intussusception has undergone a great change and an examination of the reasons for the adoption of the present methods should be by no means devoid of interest.

Not long after the pathology of intussusception was investigated the idea of forcing back the invaginated bowel by fluid pressure arose. The earlier attempts were made with air which was forced in by means of a syringe; later liquids were employed, water being chiefly used, though olive oil has been advocated. Hydrogen and carbonic acid gas have also had their supporters. There is a very obvious limitation to the action of both inflation and injection and this is imposed by the ileo-cæcal valve. Any intussusception limited to the small bowel cannot be affected by the distension of the large intestine, for distension of the cæcum closes the valve firmly. It is true that it has been demonstrated that in excessive distension of the cæcum some of the contents may escape upwards through the valve, but this can only happen to a slight extent and when the distending force is very great. Therefore these methods are possible only in some forms of intussusception. The treatment by inflation, and especially by injection, did certainly succeed in reducing some intussusceptions, and this was so, not only in slight cases, but even in extensive cases, as in one recorded by Dr. E. MANSEL SYMPSON, where several inches of bowel protruded from the anus. In what proportion of cases methods of distension succeed cannot definitely be stated, but the statistics collected by Dr. F. HOLME WIGGIN of New York, which give the percentage of successes as 25, may be considered as not underestimating the beneficial results of the treatment. Distension of the colon, too, is not without danger, for numerous cases are on record in which rupture of the bowel has occurred. Mr. R. LAWFORD KNAGGS has collected seven cases in which this accident was encountered and no wonder need be felt at the rupture of the bowel under the conditions in which distension is usually performed, for in most cases no attempt is made to gauge the pressure exerted by the distending fluid. A syringe is usually employed and the pressure exerted by the hand on the syringe is a very poor index to the pressure in the bowel. A curious fact is here of great importance, and that is that the smaller the syringe employed the greater is the distending force. The quantity of the liquid injected is an equally fallacious test of the pressure in the bowel, for Mr. D'ARCY POWER has shown that the capacity of the colon varies greatly in different children. Indeed, in one of the fatal cases of rupture of the bowel only nine ounces of water had been injected. The process of distension may also be very exhausting to the child, especially if it has to be repeated, as is necessary sometimes when this is the sole method of treatment employed. In some cases the process has been repeated four or five times. An important objection to the treatment by distension is that it is often very difficult for the surgeon to be certain that the reduction is complete, for so small a portion of bowel may remain invaginated that nothing can be felt through the abdominal wall and yet a fatal issue may follow. On the other hand, the surgeon may feel a small swelling after distension has been practised and may think that reduction has not been complete, though the mass felt is only œdematous bowel.

For these and other reasons there has been of recent years a growing tendency to resort to abdominal section at an early stage of a case of intussusception. Even in the past a laparotomy frequently followed unsuccessful attempts at distension, but these unsuccessful attempts had been often so energetic and persistent that the severe exhaustion that had been induced entirely precluded the possibility of a successful result following the abdominal section. Mr. JONATHAN HUTCHINSON'S case recorded in the fifty-seventh volume of the *Medico-Chirurgical Transactions* appears to have been the first successful case in this country, though one had occurred in France towards the end of the eighteenth century. Since Mr. HUTCHINSON'S case in 1871 many others have been recorded; still failures far outnumbered successes and, indeed, laparotomy for intussusception had fallen into a certain degree of disrepute. With the development of abdominal surgery the confidence of the surgeon in the comparative harmlessness of a laparotomy developed, and the abdomen was opened for the treatment of this condition with less and less hesitation. Still, however, the mortality continued high, and it was seen that no small share of the blame was to be attributed to the exhaustion produced by the previous attempts at reduction. Abdominal section was therefore gradually performed at an earlier stage, until it was found that the best results were obtainable in those cases where little or no previous attempts at distension had been made, and at the present time recourse

to injection or inflation is gradually falling into disuse, and their place is being taken by laparotomy. The results justify the change and the series of cases recently treated at the London Hospital, to which we have already referred, clearly demonstrate the value of a primary abdominal section in intussusception. It is essential to distinguish in preparing statistics between secondary laparotomy, where the case has been previously treated by distension, and primary laparotomy, in which no other remedial measures have been employed. A confusion of these two classes will utterly vitiate the conclusions from any series of cases. The ease with which the invaginated gut can generally be withdrawn after the abdomen has been opened is truly marvellous, but in this, as in all other forms of acute intestinal obstruction, much depends on the duration of the symptoms and the tightness of the constriction. If several days have elapsed and the inclosed bowel is tightly nipped, peritoneal adhesions will have fixed it, and it may be impossible to withdraw it. In such circumstances the prognosis cannot fail to be very grave whatever method of treatment be adopted. Fortunately these complications are exceptional, especially in cases treated early, and therefore we may hope for even better results with a growing recognition on the part of the public of the importance of early treatment.

May it then be said that distension should never be attempted? The treatment of an analogous condition, strangulated hernia, will furnish the answer. Formerly when a hernia became strangulated severe and protracted taxis was frequently employed for its reduction with disastrous results to the patient; now the routine treatment is an immediate herniotomy, but this may harmlessly be preceded by a single gentle attempt at reduction if the strangulation is recent. So is it too with intussusception. Laparotomy is the best method by which to treat this condition, but a single gentle attempt at distension in recent cases which are confined to the large intestine and not of an acute type may be performed with impunity. One condition, however, is essential. The pressure in the colon must be absolutely under control, and this can only be effected by employing a liquid as the distending agent and using a funnel and rubber tube to introduce it. If the funnel be raised not more than two feet above the level of the patient the pressure will not exceed one pound on the square inch, and this pressure is probably perfectly safe. The attempt should be made under an anæsthetic and should it fail laparotomy can be immediately proceeded with, while the surgeon will feel sure that he has not by this gentle distension impaired the chance of success of his operative procedure.

The Royal Dental Hospital and its Anæsthetists.

THE entire staff of anæsthetists of the Royal Dental Hospital of London have been dismissed from their posts in circumstances which require consideration from us, and we think that our readers will agree that the circumstances also require more consideration than they have apparently received from the committee of management of the well-known hospital in Leicester-square. The story is briefly as follows:—At the Royal Dental Hospital of London there has lately been appointed an officer—and doubtless he has proved a very useful officer—who is known as the dental superintendent. His duty we find in a recent report of the medical committee of the hospital defined as being "to supervise and direct the work of the demonstrators, the house surgeons, the curators, students, and pupils, and in the unavoidable absence of the anæsthetists to act as their deputy"; and the same report adds that his appointment has proved an unmixed benefit to the hospital. In October of last year the dental superintendent presented a report to the committee of management of the hospital which is not in our hands, but which appears to have attributed want of regularity and punctuality in the exercise of their duties to some of the dental staff and some of the administrators of anæsthetics attached to the hospital. This report was referred to and read at a meeting of the medical committee without any special notice of its contents being sent to the anæsthetists, who are, however, members of the medical committee; and as a result a sub-committee was elected upon the suggestion of the medical committee to consider the dental superintendent's report. The sub-committee was composed jointly of members of the medical committee and members of the committee of management, and reported to the committee of management "that having regard to the enormous increase in the number of gas cases the sub-committee is of opinion that the best way of dealing efficiently with the problem is by the appointment of two paid anæsthetists in place of the present honorary anæsthetic staff." The report also defined the hours of attendance of the medical staff and concluded thus:—"that the members of the anæsthetic staff be thanked for their services and be made honorary governors of the hospital and that the two seniors be elected consulting anæsthetists to the institution." This last clause amounts, in our view, to dismissal of the anæsthetists of the hospital and, it may be noted, without any marked expression of gratitude for past services. The report was adopted by resolution of the committee of management without being submitted to the medical committee, and was at once embodied in a circular letter and despatched to the anæsthetists of the hospital, the majority of whom received it with complete surprise. Perhaps the anæsthetists may have been, as the sub-committee's report comically calls them, an "anæsthetic staff" not to suspect what was in the wind, but they did not. Some two years ago, at the time, we believe, that the dental superintendent was appointed, dissatisfaction was expressed with the way in which the anæsthetists rendered their services, but this had not prepared them for a dismissal *en bloc*, with only a formal word of thanks and no regretful phrase.

Such is the story. There are several points of a personal nature which may arise in the discussion of this unfortunate affair, but we intend to do our best to consider the matter wholly on the broad grounds of the good of the public and of the dignity of the medical profession. The committee of management proposes to make an immediate alteration in the regulations of the hospital which we are quite ready to believe is intended as a measure of reform, but which seems to us to constitute a possible danger to the public and to display scant respect for an important body of

medical workers. There may or there may not have been irregularities in the attendance of the anæsthetists, but there can have occurred nothing to justify the immediate adoption of a report dispensing with their services in less than ten weeks from date. It is by the terms of his office no business whatever of the officer, called the dental superintendent, to make reports upon the irregularities of the anæsthetists. His duties appear to us to be clearly defined and distinctly arduous, and he should not have been asked to add to his duties that of noting, supervising, and directing the work of the anæsthetists of the hospital—for we take it that he was so asked and that he did not make his complaints upon his own initiative. The one and only authority which would most certainly have been in the right in calling the attention of the anæsthetists to any lapse in their duties towards the hospital was, and is, the committee of management, and that committee has been apathetic up to the day when the dismissal of the anæsthetists was ordered. It is perfectly well known that the arrangements for the attendance of the anæsthetists at the Royal Dental Hospital have been under discussion at the hospital for many years, and from time to time rules have been framed by the anæsthetists themselves for dealing with the situation. But the rules have not been kept by all the anæsthetists, and so, with the ever-increasing work, the difficulty has become acute. Any causes of dissatisfaction that the committee of management may have had ought to have been clearly expressed by that committee to the anæsthetists, and any failures in the system under which the anæsthetics have been hitherto administered to the patients must be laid to a great extent at the door of the authorities who have condoned all lapses by their attitude. The authorities should have brought any reasons for complaint to the notice of the anæsthetists and should have insisted upon hearing any other side of the matter that might be presented. No vague and general expression of dissatisfaction could be expected to meet the case. The arrangements for the attendance of the anæsthetists at the hospital have been criticised in a desultory way for a long time—we know that; but the committee of management has never discussed these arrangements with a view to tackle squarely any question that might arise if they were altered. Suddenly, however, it resolves to discharge its anæsthetists, somewhat as an autocratic householder might rid himself of a body of insubordinate or dishonest servants, and we cannot regard its tactics as otherwise than a want of respect to the medical profession. We shall be surprised to find that our readers regard the matter in any other light.

But there is another and more important reason than any we have yet adduced why the committee of management ought to desire to reconsider its action. By dismissing its staff of anæsthetists it proposes to overturn a system which, on the whole, has worked well for many years. To the success of the system by which the Royal Dental Hospital has been supplied with anæsthetists many of the best administrators of anæsthetics in the kingdom have contributed, and by so doing have provided for the safety of the public in a manner that the new arrangement can hardly promise to do. Under the old system, which, in accordance with the recent decision of the committee of management, comes to an end on March 1st of this year, the patients enjoy the services of specially selected and highly skilled anæsthetists. There has been great competition to obtain these posts and on the principle of the survival of the fittest they have been well filled. It is perfectly impossible to suppose that two paid anæsthetists can discharge the duties of the present honorary staff of anæsthetists. Candidates of the position in their specialty filled by the present anæsthetists of the Royal Dental Hospital will not compete for paid appointments to be held under conditions of inferiority; and the posts will probably fall into the hands of junior and comparatively untried men. To the element of danger for the public thus introduced must be added another. Two paid anæsthetists may not be able to stand the physical strain of work which has hitherto employed a certain proportion of the time of eleven experts. The administration of nitrous oxide gas is not absolutely and always a simple matter. It is only those who do not know how to administer "gas" who take this convenient and perilous view. We would press these reflections on the committee of management of the Royal Dental Hospital. The resolution by which it has dismissed its staff of anæsthetists does not take effect for a fortnight. In the interim we trust that the members of the committee will with unprejudiced minds think over the matter from the points of view which we have ventured to put very plainly before them. By all means let the anæsthetists be called to order if they have erred. Discipline must be maintained and the committee of management is the right body to maintain it. But let it not hurriedly overturn a system which guarantees a security for the public which will be wanting if the hospital has to rely for the future upon the services of two paid anæsthetists. We are certain that the medical profession and the public alike will think as we do. And we fear that if the committee of management persists in its proposed action without, at any rate, giving the whole matter that thorough re-discussion which its importance merits, it will endanger the prosperity of the institution for the good of which many of its members work so hard and so generously. We do not ask the members of the committee of management to change their minds without reflection; we do not suggest that they should retain upon the staff of the hospital anyone with whose work they have reason to be dissatisfied; but we beg them to reopen the matter.

Annotations.

"Ne quid nimis."

SMALL-POX IN THE PROVINCES.

HAPPILY for us, the small-pox epidemic, as far as London is concerned, may now be said to have been practically stamped out, only about three cases weekly having been notified in the metropolis since the beginning of the present year; but from official information just received we learn that the disease still continues to spread in some other parts of the country. The Registrar-General's return for the fourth quarter of last year, which has recently been published,

contains a table (pp. xxiii.–xxvi.) showing the number of cases of dangerous infectious disease reported to the local authorities of the principal towns in England and Wales. This table, which is a recent addition to the Registrar-General's returns, is the natural and necessary complement to the ordinary tables of mortality from these diseases with which we have been familiar for many years past. The table referred to shows that although small-pox was notified in the metropolis in only 43 cases last quarter, as many as 1477 cases of that disease in the aggregate were reported in 80 of the provincial towns included in the return. Although, if these attacks were evenly distributed over the entire English population, small-pox could not be said to have, as yet, attained epidemic proportions, nevertheless, the excessive incidence of the disease in Lancashire and Yorkshire, in parts of Staffordshire, and in South Wales, has been so pronounced as to cause considerable local anxiety. We have selected from the lists of towns in the two counties first mentioned, a continuous infected area, largely composed of industrial communities, and containing a population about equal to that of London. In this area the incidence of attack by small-pox last quarter was such that, if continued for a year, the ratio would approximate to one in each thousand of the population. In a group of urban districts in South Wales the proportion of notified cases to population has been only slightly less than this, whilst in a few towns in the Potteries, especially in Hanley and Walsall, the disease has been seriously prevalent and has shown a tendency to spread. Unfortunately, there are no recent returns to guide us as to how far the several populations are protected by vaccination or revaccination against small-pox; but apart from this, it is certain that in many of the smaller towns, at any rate, the inhabitants are but very insufficiently provided with hospital accommodation in case of need. Consequently, although in London almost every known case of small-pox has hitherto been promptly isolated in hospital, in many of the provincial towns to which we have referred it is greatly to be feared that the majority of the cases will necessarily be treated at home, and thus infection will practically be left to spread unchecked, until every susceptible person has been attacked. The town of Keighley, in Yorkshire, the inhabitants of which are well known to entertain peculiar views on the subject of vaccination, has suffered severely during the last three months, as many as 31 attacks having been notified there amongst a population scarcely exceeding 42,000. With the exception of a single case the borough of Leicester, which is also notoriously opposed to vaccination, seems to have escaped infection up to the end of December last. We learn, however, from trustworthy sources that since the beginning of January a considerable number of cases have occurred in that town in consequence, as it is stated locally, of failure on the part of certain persons to report the earlier cases to the sanitary authority. The proportion of unvaccinated children in the Leicester population is, we believe, very large, and although the local authorities are commendably assiduous in their attention to isolation and disinfection we shall be surprised if, sooner or later, the town does not become the scene of a terribly fatal small-pox epidemic. Referring again to the new table (No. VIII.) in the Registrar-General's return, we think that it should be in the hands of every medical officer of health and of every sanitary authority in the country. In addition to the ordinary tables of mortality, which, by the way, now relate to 179 of the chief English and Welsh towns instead of to the 83 towns for which particulars were formerly given, the table now before us gives account of the prevalence of infectious disease (not necessarily fatal) in the above-mentioned 179 towns, which may be taken as representative of every part of England and Wales. The price of each quarterly return is only a few pence and, having regard to its unique value for preventive purposes, we are surprised that up to the present time its circulation has been so small as it is reported to have been.

A STRANGE ROAD TO ROYAL FAVOUR.

HISTORY and tradition afford many curious instances of the unexpected way in which fame and practice have come to the medical practitioner. In some cases it has been an act of kindness proffered to some apparently obscure and impoverished patient that has returned a thousandfold in the legacy of an eccentric millionaire; in others the bold outspoken declaration of some unpleasant medical truth has been rewarded by its hearer—conscious of the facts yet never before meeting a medical man who dared to state them—by constant adherence to, and influential recommendation of, the honest and unflinching medical adviser. We doubt, however, if a practitioner has ever received a Court appointment through a more curious set of circumstances than those which, if report is true, have raised Dr. Botkine to the position of Court physician at St. Petersburg. The Court physicians in Russia have hitherto been almost exclusively German. It appears that a short time ago, the Tsaritsa suffering from some affection of the throat, the Tsar summoned to her aid a Russian physician named Botkine. This gentleman requested Her Imperial Majesty to remove the wraps from her throat in order (we quote a daily paper) "to apply his ear so as to ascertain what was wrong with the larynx." The Empress declined to remove the wraps, remarking that "up to now no doctors who had attended her had made such a request." Dr. Botkine, we are told, "had no other course open but to retire." The Tsar on hearing an account of the circumstances "made some remarks on the too obedient German physicians and appointed Dr. Botkine Court physician." It is to be regretted that we cannot more generally reckon upon pleasing one person if we displease another, as seems to have been the result of Dr. Botkine's action in this instance. Possibly the Tsaritsa holds, as we do ourselves, that auscultation of the larynx is an unusual step in the case of a slight affection of the throat. At any rate, the result of her refusal will be a pleasant fillip to patriotic medical men in Russia.

THE MEDICAL MISSION IN UGANDA.

A GREAT misfortune has befallen the missionary hospital at Mengo, Uganda. On Nov. 28th in the midst of a tropical storm the hospital was struck by lightning and within a few minutes the whole of it except the isolation wards and the dispensary was destroyed. Fortunately, no one was killed, though a patient with hip disease suffered a fracture of the thigh owing to a fall as he was being carried out. Most of the patients were able to run out of the burning building; among these were a woman with her newly-born babe, a patient on whom an ovariotomy had recently been performed, and two men who had just undergone radical cure for hernia; and none of them appear to have suffered any harm from their sudden removal into the downpour of a tropical storm. The Baganda, who thoroughly appreciate the benefits of the hospital, made most strenuous exertions to save the patients and the contents, but unhappily much was destroyed. A fresh supply of instruments with two new instrument cupboards of plate glass had been unpacked only the day before, and these were nearly all destroyed, but it was found possible to save some of the instruments. Two native helpers succeeded in rescuing two microscopes but did not bring away the higher powers, perhaps thinking that such small objects could not be of any great importance. Such an accident is a dire misfortune to a flourishing medical mission

such as that at Mengo. The medical officers are Dr. A. R. Cook and his brother, Mr. J. H. Cook. The hospital contained 70 beds and during 1901 had 1070 in-patients, and out-patients made 76,840 visits. It will thus be seen that a great work was being done in this hospital which was only built in 1899. It is hoped to rebuild it of much less inflammable material, and this is now possible as the railway has reached the lake, and corrugated iron roofing and concrete are comparatively cheap. The natives have promised assistance and will provide the 400,000 bricks required and all the timber. The new hospital will have accommodation for 100 beds. The commissioner has supplied free of all expense 400 men to assist in building a temporary hospital and some other local help has been obtained, but there is great need of extraneous assistance, both for rebuilding the hospital and for providing furniture, stores, and instruments. We feel sure that this assistance will be forthcoming as soon as the merits and needs of the medical mission are known. We would make one suggestion. Thunderstorms are, we are told, extremely freqtient in this part of Uganda; it would be well, therefore, to see that the new hospital is provided with lightning rods. Doubts have at times been expressed as to the value of missionary efforts, but whatever conclusion may be arrived at with regard to missions generally we do not believe that anyone will deny the vast extent of the good done at medical missions. To any medical man who has travelled in the east the need for skilled treatment of the suffering millions is apparent. Diseases readily amenable to our treatment are endured for years and suffering and death are rampant. The work of the medical missionary in relieving this suffering is good and we earnestly hope that it may flourish more and more.

THREE DISTINGUISHED AMATEUR PHYSICIANS.

THE above is the title of a paper read by Dr. W. S. Colman before the Medical and Physical Society of St. Thomas's Hospital on Oct. 16th, 1902, and reprinted from the *St. Thomas's Hospital Gazette*. Dr. Colman is more courteous in his title than in the commencement of his paper, for after alluding to a predecessor of his who had given an address upon some eminent surgeons he continues, "I am going to deal with some eminent quacks." We must premise that Dr. Colman's "amateur physicians" were Charles II., Valentine Greatrakes, and John Wesley. Now we consider that a quack is a person who pretends to be able to cure sufferers and who always takes fees for his work or drugs. Typical quacks are the Viavi Company and people of the type of "the Revd." Joseph Hope or "Dr." Bell. But we do not think that any one of the three unqualified practitioners mentioned by Dr. Colman could be written down simply as a quack. To commence with Charles II. All sovereigns of England from Edward the Confessor down to Queen Anne, with the possible exception of William III., considered that they were divinely commissioned by the Almighty to be able to cure "scrofula" by the royal touch. They were, we know, mistaken, but still they were not quacks. There was a special service appointed for the "touching," and it was printed in the Book of Common Prayer down to the end of the eighteenth century. "There is no doubt," says Dr. Colman, "that many cases received benefit. Many of these we should now class as faith healing, but in other cases the good result may well have followed the cessation of the nasty messes which were then in vogue as dressings, since it was considered respectful to keep the part which the king had touched simply covered with a fair linen cloth." Dr. Colman, by the way, says that the touch piece which was hung round the patient's neck was nearly always a gold angel. This was so, we believe, up to the end of the reign of Charles I., when the issue of "angels" was discontinued. Subsequently special "touch pieces" were struck for the purpose. Although smaller in size (and their size varied) the "types" both of the obverse and the reverse were similar to those of the angel. Valentine Greatrakes and John Wesley more nearly deserve the name of quacks than did the Royal "healers." The former was an Irish gentleman who was born in 1601 and who, after the Restoration, was persuaded that there was bestowed on him the gift of curing the King's evil. His method of treatment was by "stroking," and no doubt he relieved certain functional disorders by a combination of massage and hypnotism. He charged no fees, but in one case at least, an unsuccessful one, he charged his expenses. John Wesley, better known to fame as the founder of the Methodist body, was an ignorant practitioner but at least a sincere one. He noted in his missionary journeys that the poor were badly supplied with medical advice and that even when they did obtain it it was grounded upon irrational principles. Unfortunately, though having no medical education, he considered himself qualified to write a book upon treatment. Dr. Colman allows that he was sound in maintaining that general hygienic treatment was as important as drug treatment, but still his book was full of absurdities, and even dangerous ones, as when he advises four-grain doses of perchloride of mercury for fistula. But he made no charge for advice, although he did for his book, and then the profits were given to charity; moreover, if the patient suffered from a complication of disorders he says, "You would do well to apply to a physician that fears God." There was some excuse for both Greatrakes and Wesley. Medical science in their day was crude, communication was difficult, and hospitals were few. There is no excuse nowadays for the amateur physician, whether he be a parish priest who pretends that nine minims of carbolic acid will cure influenza, or for the inmates of a religious house who sell salves warranted to cure almost anything.

THE FOURTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THIS Congress will take place at Madrid from April 23rd to 30th, 1903. The final programme is being prepared. The committee invites members to send to the secretary-general (Dr. A. F. Caro) at Madrid, as soon as possible, the titles of their communications accompanied by an extract (or *résumé* in the form of conclusions if possible), preferably in French. All extracts which reach the secretary in time will be printed and sent before the opening of the Congress to the members of the respective sections in order to facilitate discussion during the Congress. In addition to the reduced rates for transport announced in THE LANCET of Sept. 6th, 1902, p. 693, the following are now announced: France, Compagnie de Navigation La Transatlantique, Compagnie Mixte, and Transports Maritimes, 30 per cent.; Italy, Italian railways (Mediterranea, Adriatica, and Ferrovie Sicule), 50 per cent.; and Norwegian railways, Roumanian railways, and Servian railways, 50 per cent. At Madrid from April 3rd to May 24th special tickets at the same reduction of 50 per cent. will be issued to enable the different towns in the south of Spain (Seville, Granada, &c.), to be visited, and it is probable that holders of these tickets will not be obliged to return to Madrid on leaving Spain. Such tickets will only be obtainable at the booking offices at the time of the excursions upon presentation of a card of identity which will be sent to every inscribed member. Full programmes of these excursions can be obtained from the Voyages Pratiques, 9, rue de Rome, Paris, or in London at 11, Ludgate-hill (Messrs. Seelig and Reed, Limited.). The Service des Logements denies the reports which have been circulated

as to the difficulty or impossibility of obtaining convenient lodgings during the Congress. It is true, we are informed, that some of the better known hotels have been besieged with demands, but at Madrid there are a large number of other hotels which, though not so important as the Hôtels de la Paix, Rome, Paris, &c., are in no way inferior in comfort and cooking. In addition the committee has secured thousands of lodgings in first-class private houses and many French, German, and other families have offered to receive one or more persons. The Service des Logements can therefore always procure a complete pension from 13 pesetas to 50 pesetas per day. The definite distribution of accommodation will not take place until the month of April, but in order to make sure of being well lodged demands should be made now to Mr. Ulrich Frei, Service des Logements du XIVe. Congrès International de Médecine, Madrid. Grand fêtes will be organised at Madrid in honour of the members of the Congress. Their Majesties will give a garden party and a general reception at the palace, and the municipality is organising a general fête and probably a special play at the theatre. There will also be a *corrida de toros*, in addition to which the different sections are organising special fêtes and excursions limited to the members of such sections. The definite programme will be communicated later to all interested. Subscriptions (25 francs, by cheque on Paris) may be addressed to the secretary-general at Madrid, or up to March 20th to the national committees of the various countries. Other particulars will be found in THE LANCET of Oct. 18th, 1902, p. 1070, and Dec. 13th, 1902, p. 1642. The honorary secretaries for Great Britain and Ireland are MR. D'ARCY POWER, 10A, Chandos-street, London, W., and Dr. P. Horton-Smith, 15, Upper Brook-street, Grosvenor-square, London, W.

THE DIAGNOSIS OF NEURASTHENIA.

CONSIDERABLE progress has been made in recent years in our knowledge of neurasthenia as regards its more minute clinical and diagnostic features, and the term as now used possesses a far more precise clinical and neurological significance than it did at the time when Beard of New York recorded his pioneer work on the subject. Professor Emil Kraepelin of Heidelberg has published in a recent issue of the *Münchener Medicinische Wochenschrift* (No. 40, 1902) an important article in which an attempt is made to define clearly the precise character and the limits of neurasthenia in the interests of diagnosis and treatment. Many nervous diseases, says Professor Kraepelin, may, at various stages of their development, simulate neurasthenia. One of the most important of these is general paralysis of the insane at its earlier stages. If a characteristic tremulous and paretic speech and oculo-pupillary disturbances in the form of inequality of the pupils with loss of the direct and concentral light-reflexes are present, the co-existence of these with neurasthenic symptoms will point to early general paralysis rather than to neurasthenia proper. Moreover, the occasional occurrence of a maniacal outbreak will serve to distinguish general paralysis from neurasthenia when the diagnosis is for a time difficult. Some forms of dementia præcox—the precocious dementia of adolescents—are, it is pointed out, liable to be confounded with neurasthenia, and this is especially true of the hebephreniac form. The occurrence of positive mental deterioration and the presence of hallucinations will serve to distinguish the latter from neurasthenia. It is important to discriminate between neurasthenia and the degenerative psychoses of adolescence since useless and expensive efforts to obtain a cure by means of hydrotherapy, electricity, and hypnosis need not be made or disappointment incurred if it is known that the case is one of dementia præcox and not of neurasthenia. The development of any one of such symptoms as stupor and mental automatism, muscular hypertonicity, stereotyped oddities of posture and movement, and "negativism" or a passive resistance to everything that is required to be done by the physician or nurse should lead to the suspicion of dementia præcox and not of neurasthenia. There is moreover a group of mental disorders termed by Professor Kraepelin "manic-depressive insanity" which in their prodromal stages may be confounded with neurasthenia. On careful investigation of the clinical history and psychical condition of such patients there will be detected one or more of the following symptoms which sometimes are found in neurasthenia but which in their more intense or extreme developments are present in the group of insanities alluded to—viz., marked weariness or prostration (*Abgeschlagenheit*), incapacity for work, gloomy disposition, hypochondriacal apprehensions, cephalic paræsthesias, insomnia, and disagreeable sensations (including feelings of weight) in the limbs. In cases of insanity amelioration of these symptoms will occur sooner or later, since the psychoses of the "manic-depressive" group are characterised by symptoms which fluctuate considerably and periodically, whereas in neurasthenia such symptoms are more constant and less severe. Neurasthenia is usually, adds Professor Kraepelin, a slowly progressive state which diminishes the patient's capacity for work and mental application. Such patients may be spurred on by relatives to put forth greater efforts to overcome their weakness with the result that the malady invariably becomes aggravated. Many neurasthenic patients are thus driven to take stimulants such as alcohol or morphia, the latter being especially employed owing to the feeling of well-being and of heightened capacity for work and action that it promotes, and eventually such a patient becomes a drunkard or a morphinomaniac. The bodily processes of nutrition are perverted in neurasthenia and there is defective excretion of the waste products of tissue metabolism, while the nerve tissues exhibit a deficiency in the capacity for recuperation of energy during rest or sleep. A limited class of cases of neurasthenia, says Professor Kraepelin, may be the outcome of sudden and severe disturbance of the nervous system such as is caused by traumatism and physical shock as in railway accidents. Sudden fright without physical shock may also be a cause. Some of these cases are of grave prognosis. A large and important group of neurasthenias has a congenital origin and shows a close affinity to hypochondriasis on the one hand and to the insanities of morbid doubt and scruple (*Grübelsucht*) on the other. Those cases which belong to the category of insanity as distinguished from neurasthenia will be manifested by occasional outbreaks of great mental perturbation or of dangerous impulses towards homicide, crime, or suicide. The term "neurasthenia," concludes Professor Kraepelin, is, even at present, used loosely to include many psychoses as above mentioned, but its meaning should be restricted so as to exclude the latter which really belong to the category of mental alienation or insanity. A separation and classification of these types of mental disorder will lead to a more discriminating diagnosis and to a more satisfactory treatment of cases of neurasthenia as well as of these psychoses.

CHOLERA IN EGYPT.

DURING the week ending Jan. 19th there were 4 fresh cases of cholera at Alexandria and 3 deaths. Only one patient remained under treatment at the end of the week. These were all the cases in Egypt during that week and during the preceding week neither attacks nor deaths were registered in Alexandria. With reference to the outbreak at the small village of Khoos-el-Bousa mentioned in THE LANCET of Jan. 10th, p. 115, later information received

from Egypt is to the effect that Mr. A. T. White of the medical department, assistant inspector of Upper Egypt, immediately carried out the sanitary precautions which resulted in the suppression of the epidemic. Dr. C. Goodman and his staff of well-borers arrived three days after Mr. White. During the week ending Jan. 26th neither cases of, nor deaths from, cholera were reported throughout Egypt. During the previous week four cases of cholera were notified at Alexandria, the last case occurring on Jan. 18th.

THE SMOKE NUISANCE IN LONDON.

THE Battersea borough council is to be congratulated upon having secured a decision from a police magistrate, Mr. Garrett, against the London, Brighton, and South Coast railway company for permitting a smoke nuisance. It arose through the company's practice of firing their engines in a shed or covered way at Victoria-road, Battersea, the smoke arising in the process being allowed to escape through funnels in the roof. The defence was raised that these funnels were not chimneys within the meaning of the Public Health Act under which the proceedings were taken. The magistrate held that they were and expressed himself satisfied that with care and some inconsiderable expenditure of money the nuisance complained of might be satisfactorily abated. He inflicted a small fine which no doubt will have the desired effect.

URÆMIC ULCERATION OF THE DUODENUM.

URÆMIC ulceration of the duodenum was first described by Wilks and Moxon in their "Lectures on Pathological Anatomy," published in 1875. They pointed out the frequency with which ulcers of the stomach and duodenum were found in Bright's disease. In the Guy's Hospital Reports for 1893 Dr. E. C. Perry and Dr. L. E. Shaw published an important paper on diseases of the duodenum in which they described a number of cases of ulcer in Bright's disease. But the literature of the subject is still very scanty. At the meeting of the Société Médicale des Hôpitaux of Paris on Jan. 16th M. Ernest Barié and M. Paul Delaunay related the following case. A man, aged 52 years, who was addicted to alcohol, was admitted to hospital on August 29th, 1902. 15 years before he contracted syphilis. For two months he had suffered from breathlessness which at times culminated in attacks of dyspnœa. Digestion was painful and he often vomited his food. There were symptoms of pulmonary emphysema and moist râles. The urine contained albumin and the legs were œdematous. On Sept. 15th pericardial friction was heard; on the 19th it had disappeared. On the 22nd diarrhœa began and on the 23rd there was abundant enterorrhagia, the mattress being soaked with blood. On the next day he became comatose and died. The necropsy showed in the brain the remains of an old hæmorrhage and atheromatous arteries. The lungs were emphysematous and œdematous. On the visceral pericardium was recent fibrin; the left ventricle was hypertrophied. The whole colon was full of blackish-brown blood, but its mucous membrane showed no ulceration. The second half of the small intestine was almost empty; the first half contained bile and a little blood; the whole mucous membrane was congested and covered by the viscid adherent mucus which has been described by Treitz in intestinal uræmia. In the duodenum, two centimetres from the pylorus, was an oval ulcer one and a half centimetres in diameter. At its base the circular muscular fibres of the intestine were seen. Two centimetres below this ulcer was a smaller one half a centimetre in diameter, and three centimetres further down in the intestine, opposite the ampulla of Vater, were two still smaller contiguous ulcers. The kidneys were granular. Uræmic ulceration of the duodenum generally takes the form of a single ulcer in the first part of the duodenum, but there may be two or more ulcers. Sometimes the remaining part of the duodenum has been found intact and sometimes inflamed. The remaining part of the alimentary canal also may be inflamed or present similar ulcers and the glairy adherent mucus mentioned above. The symptoms are inconstant. Sometimes a subject of renal disease in apparent health is seized with symptoms of perforative peritonitis. Sometimes the symptoms occur during uræmia: there may be epigastric pain two or three hours after a meal, vomiting, diarrhœa, melæna, and, much more rarely, hæmatemesis. Duodenal ulceration occurs in the most diverse renal diseases—acute and chronic parenchymatous nephritis, interstitial nephritis, ascending nephritis, peri-renal phlegmon in renal lithiasis, and renal tuberculosis. As to the pathogenesis of the duodenal ulceration several explanations have been advanced. The most reasonable seems to be that defective renal secretion leads to vicarious excretion by the alimentary canal. Hence the stomatitis, dyspepsia, gastralgia, vomiting, and diarrhœa of uræmia. Why the duodenum should be specially affected seems difficult to explain. But Stassano has attempted to show that the duodenum plays a special part in the excretion of poisons. He found that mercury was excreted by leucocytes into the alimentary canal—slightly into the stomach, more into the intestine, and most into the duodenum.

GRASS AND PHOSPHATES.

WE have received a copy of the Report upon the Utility of Superphosphate as a Top Dressing for Grass-lands issued by the Chemical Manure Manufacturers' Association, the perusal of which we commend to every well-wisher of his country. The *brochure* is well headed by the celebrated quotation from Dean Swift about "two blades of grass where one grew before" which deserves to be written in letters of gold. It is pleasant to see the modern agriculturist turning for encouragement to that staunch patriot who was to the last hour of his life passionately devoted to the interests of his fellow-men. We venture to think that the whole subject of phosphates, which has such an important bearing on the question of food-supply, is of national importance and has been far too much neglected by thinkers and statesmen. There can be no doubt whatever that the soil of the country has been more or less denuded of this vital constituent, the system of grass farming now prevailing having apparently had much to do with this mistaken policy, some farmers thinking that when land is devoted to grass cultivation little beyond farmyard manure is required, forgetting that each crop makes a heavy demand on the mineral ingredients of the soil. It seems worthy of notice that though nitrogen and potash are of great importance as fertilisers they are to some extent supplied naturally—the nitrogen from the air and potash from the inexhaustible inert matter of the earth—but phosphate once gone can only be replaced by the hand of man. The reaction by which superphosphate is made (mono-calcic phosphate) was discovered by the celebrated agriculturist Sir John Lawes, and the manufacture has been principally carried on by the company founded by him ever since with great success and with immense benefit to the country. Several efforts have been made "to improve" on superphosphate, but they appear unsatisfactory and ill judged, and superphosphates, the active and available combination of vital phosphorus, in every sense emphatically "holds the field." An important committee has been recently formed to study the question of food-supply in time of war. Might we urge on its members to consider the question of artificial manures? Surely it would be easier to import in such circumstances of stress as occur in war time the essential elements of our food-supply rather than vast shiploads of the harvested cereals. Besides, the question

of work for the unemployed, now so painfully in evidence in the streets, would at the same time be to some extent solved by the increased demand for men to till the land. We cannot, however, go into this, but again commend the study of this pamphlet to our readers. Medical men are not uninterested in this matter. The wise and benevolent physician will readily admit that a fertile country and a well-nourished nation will tend to what no one wishes more to see than he does himself—the vigour, strength, and happiness of mankind.

THE DISTRIBUTION OF PLAGUE.

As regards Egypt, 7 cases of plague have occurred at the village of Barshoum-el-Koubra, Toukh District (Galioubieh Province), during the week ending Jan. 25th. Of these 3 proved fatal. Since Nov. 19th last no cases have occurred at Alexandria. The reappearance of the disease is probably due to infection which has been lying dormant since last year amongst rats that may have migrated from the village of Sayafa which is almost contiguous and where plague occurred during last summer. It is possible that similar outbreaks may occur in or near towns or villages where existed plague last year. Such towns and villages are being carefully watched. As regards the Mauritius a telegram from the Governor received at the Colonial Office on Feb. 6th states that for the week ending Feb. 5th there were 5 cases of bubonic plague and 4 deaths from the disease. As regards the Cape Colony the medical officer of health for the colony states that for the week ending Jan. 17th no case of plague in any human being has been discovered at any place in the colony. At the end of the week 1 case remained under treatment at the plague hospital, Port Elizabeth. Plague-infected rats have been found in Port Elizabeth during the week, the last being discovered on Jan. 15th. As regards Hong-Kong, a telegram from the Governor received at the Colonial Office on Feb. 10th states that for the week ending Feb. 7th there were 12 cases of bubonic plague and 12 deaths from the disease.

THE MENTAL CHARACTER AND THE TREATMENT OF THE EPILEPTIC.

AN interesting symposium dealing with the mental character and treatment of the epileptic is contributed by various writers to the *Journal of the American Medical Association* of Jan. 17th. Dr. H. A. Tomlinson, medical superintendent of the Minnesota State Asylum, pointed out that a special condition of irritability and instability of the cerebral cortex characterised all epileptics. Apart from causes acting in infancy, such as the irritation felt during dentition, the epoch of puberty often served to disclose an epileptic taint latent in childhood. One of the main sources of danger to the epileptic arose from the conditions of the gastro-intestinal canal. The epileptic as a rule masticated food very slightly and was inclined "to bolt" it. Gastro-intestinal fermentation and indigestion were thus readily set up and the reflex irritation communicated from the stomach *viâ* the pneumogastric nerve increased the excitability of the brain and caused "fits" to appear with undue frequency. Psychologically the epileptic was, as a rule, a dullard and few were brilliant. Epilepsy tended to dull the finer sentiments and to exaggerate the brutal and primitive instincts of man. The epileptic frequently exhibited low cunning and a lack of moral sense, while he was often ostentatiously religious. When states of stupidity or of mental automatism occurred in epileptics after fits the question of responsibility for acts done in such states might be raised, as dangerous acts and crimes were known to be perpetrated by epileptics under such conditions. Professor Daniel Brower of Rush Medical College stated that epileptic children were liable to fits of ungovernable passion. Physical training should be the main employment of the epileptic child. All indigestible foods, such as pork, veal, nuts, pickles, and pastry, should be forbidden, and stimulants in the shape of beer, wine, or spirits should never be allowed. Sugar and salt should be given but little, indeed, it was best to avoid seasoning with salt the food taken by epileptics, as the therapeutic effect of the bromides given as medicine was enhanced thereby. The bowels should be kept open regularly with aperients such as blue pill and black draught. A little salol given from time to time for intestinal asepsis was valuable. Dr. William Spratling, medical superintendent of the Craig Colony for Epileptics, New York, pointed out that to get the best results of treatment three kinds of institutions were required—viz., first, asylums or hospitals for insane epileptics; secondly, industrial colonies for selected cases of epileptics who were feeble-minded or imbecile; and, thirdly, similar colonies for all epileptics who were not insane. In practice the last two classes of cases could be housed and treated in one institution with success. At Craig Colony where this was the custom it was found that 50 per cent. of epileptics could do remunerative work. Dr. F. S. Pearce spoke regarding the excellent results of hydrotherapy and of the administration of digitalis in epileptics with a feeble heart and circulation. Dr. Frank Norbury cited six or seven cases of nocturnal epilepsy, in which the fits occurred only at night and which appeared to benefit by the mixed treatment of borax and bromide. Professor Charles K Mills of Philadelphia regarded the industrial colony as the ideal home for the epileptic. He found a mixture of bromide with conium or sometimes with digitalis to be most useful. Dr. Spratling said that among his cases of epilepsy at Craig Colony 15 per cent. were due to alcoholism in the parents, 14 per cent. to tuberculosis, and 10 per cent. to insanity in the parents, while 16 per cent. had epileptic parents. A strong hereditary origin could thus be traced in 55 per cent. of cases of epilepsy.

STRANGE SUICIDES IN BED.

IN a leading article in THE LANCET of Oct. 5th, 1901, p. 921, we drew attention to the peculiar methods which persons have adopted for putting an end to their lives. Cases occur from time to time in which the fatal act is committed whilst the victim of self-murder is in bed. Mr. Troutbeck recently held an inquest as to the death of a patient named Joseph Green who was in King's College Hospital. A lad who was a patient in the same ward noticed that Green was acting strangely. There were movements under the bed-clothes as if Green were stabbing himself in the abdomen, and he subsequently pulled the clothes up level with his eyes and seemed to be injuring his face. On examination a wound eight inches long was found in the abdomen and an incision seven inches long on the left side of the neck. He died the same night. Suicide by hanging has occasionally been accomplished in bed. A case is recorded of a girl who thus killed herself by merely securing a cord to the frame of the bedstead and then leaning back in bed, the tension so produced being sufficient to cause the necessary constriction of the neck. Two other girls who were sleeping in the same bed were not awakened. Another strange case is that of a woman who laid herself on a bed, attached the running noose of a rope round her neck, tied the other end of the rope to a heavy piece of metal which she threw over the iron bar of the bed frame, and was thus strangled. A singular case is recorded of suicide by throttling. A woman, aged 40 years, suffering from melancholia, who had previously made several attempts to commit suicide, was found dead, crouched in bed with both hands compressing her throat; the elbows were supported on the knees and the back leaned

against the wall. There were marks of her finger-nails on both sides of the throat. Suicide by smothering is also rare, but an instance occurred in France in which a woman placed herself under the bed-clothes after desiring her little child to bring all the cushions, clothes, and other similar articles that were in the room and to pile them on top of her. The child did so and some hours afterwards the woman was found dead. A woman in an asylum, aged 38 years, was found early one morning dead in bed with part of a stocking protruding from her mouth, death having resulted from suffocation. No noise or disturbance was noticed by other patients who slept in the same ward. At the inquest a long stocking was exhibited which with great difficulty had been removed from the air-passages. As a final example of strange suicides whilst in bed we may refer to the case of a maid-servant who was found dead. The body lay at full length, with the head turned a little on one side, the arms crossed over the trunk, and the bed-clothes pulled up smoothly to the chin. Under the clothes, on her right side, lay a corked phial which was wrapped in paper and contained three and a half drachms of hydrocyanic acid. From the size of the bottle it was probable that four and a half drachms of the poison had been swallowed and the question arose, could the girl after taking this quantity of the poison have corked the bottle, wrapped it up, and adjusted the clothes? A man was suspected of having murdered her, but as several cases were quoted at the trial showing that in other instances of undoubted suicide similar acts had been performed the prisoner was acquitted. Such cases afford considerable difficulty to jurists and no general lines can be laid down for their elucidation; each case must be considered in detail as it occurs.

ANTE-NATAL RIGOR MORTIS.

An interesting query has been addressed to us by one of our correspondents. Does rigor mortis occur in healthy, full term, still-born children? Our readers will not be surprised to learn that this interesting question of ante-natal pathology has been very fully discussed by Dr. J. W. Ballantyne.[1] He has collected and analysed some 25 cases of ante-natal rigor mortis. Although Casper in his text-book on Forensic Medicine stated that he had never seen an instance of cadaveric stiffening in the premature fœtus, yet the occurrence of such a condition is beyond dispute at the present day and in the more recent text-books of forensic medicine it is admitted to occur. According to Dr. Ballantyne the first case of ante-natal rigor mortis is probably that of Chowne,[2] which was originally recorded in THE LANCET. Since this cases have been published in our columns by Dr. R. Boxall[3] and by Dr. B. Jones.[4] There is, indeed, nothing in the surroundings of the fœtus in utero incompatible with the occurrence of this condition, and the presence of the liquor amnii only produces a state of things analogous to that met with in the case of a person found drowned, and, indeed, ante-natal rigor mortis has been conclusively demonstrated by J. Tissot to take place in fœtal kittens. It has further been pointed out by Dr. Ballantyne and others that there are no essential differences between the cadaveric rigidity of the still-born infant and that occurring at other ages. It might naturally be expected that differences would be found in the degree of severity of the stiffening due to the varying time of the occurrence of the death of the fœtus and to its cause which must of necessity vary very largely in different cases. That the condition has not been more frequently observed is, no doubt, due to the fact that it has not been looked for, and to the further fact that it may have occurred and passed off in utero. In the case of patients dying gradually rigor mortis comes on very early and passes off very quickly and this may well be so in some instances of fœtal death. That rigor mortis does occur in utero has been proved by its presence in cases treated by Cæsarean section. The case recorded by Dr. Boxall is one of great clinical interest, because the course of the labour was apparently prejudicially influenced by the undue rigidity of the fœtus interfering with the normal mechanism of delivery. The subject is one of great interest and further observations upon it cannot fail to prove of value both from a clinical and medico legal point of view since, as Dr. Ballantyne truly points out, the occurrence of rigor mortis alone does not suffice to show that the infant was born alive in the legal sense of the term.

[1] Teratologia, vol. ii., April, 1895, p. 96.
[2] THE LANCET, May 1st, 1841, p. 199.
[3] THE LANCET, July 12th, 1884, p. 60.
[4] THE LANCET, Oct. 19th, 1895, p. 1020.

IMMIGRANTS INTO THE UNITED STATES.

DURING the year 1902 551,645 aliens landed at the port of New York. This breaks all records since 1819 when the authorities began to register immigrants from the Old World into the United States. The nearest approach to the total for 1902 was in 1882, when 476,086 foreigners were landed at Castle Garden, and 1892 comes next with 445,989. This would indicate that the tide of immigration reaches its height every 10 years. In 1901 408,040 aliens passed through the Ellis Island Bureau and 341,712 in the previous year. In 1854 319,233 immigrants arrived at New York and 213,736 in 1849. The percentage of deportations for mental or physical infirmity or poverty was also greater during last year than in any previous year. The records show that out of 36,600 arrivals during December 900 were excluded, while for the same month in 1901 there were only 255 exclusions out of 29,685 arrivals. Of the total number landed during 1902 5533 were ordered to be deported, liability to become a public charge being the chief cause of exclusion. The increase in the number and percentage of deportations is due to the more rigid examination of immigrants which has been a feature of the present commissioner's administration. The work in connexion with the strict inspection has been so severe that in the past month four inspectors have handed in their resignations. The various steamship companies were forced to exercise a stricter supervision over the class of steerage passengers who arrived in their vessels and to be more careful in making out their manifests, as fines ranging from 10 to 1000 dollars per steamship were inflicted upon the companies guilty of careless or improper manifestation.

CEREBRO-SPINAL RHINORRHŒA AFTER FRACTURE OF THE SKULL.

DISCHARGE of cerebro-spinal fluid from the nose is a rare symptom of fracture of the base of the skull. In the *Liverpool Medico-Chirurgical Journal* for October, 1902, Mr. F. C. Larkin has pointed out that this discharge may exist some time after the fracture when the patient has apparently recovered, a comparatively unrecognised fact. He relates the case of a man, aged 21 years, who on Nov. 19th, 1901, fell a distance of 15 feet on his face, lost consciousness, bled from the nose, and vomited. He was removed to hospital where concussion of the brain was diagnosed. He regained consciousness in a couple of days and then complained of deafness. On the fourth day there was left purulent otitis which lasted about a week. After another week the only symptoms were slight deafness and occasional headaches. As he felt quite well he would not remain in bed and went home on Dec. 10th. On the 12th he appeared among the out-patients and said that he was quite well, but his handkerchief was saturated with moisture and he repeatedly wiped his nose. He had first noticed the discharge on the 9th when he sat up in bed for the

first time after the accident. On being made to stoop clear watery fluid flowed from the nose, principally from the left nostril. With difficulty he was persuaded to re-enter the hospital. Next morning he complained of severe frontal headache and the flow had stopped. The temperature was 102° F. and he began to be heavy and stupid. Unconsciousness and symptoms of meningitis followed and death took place on the twenty-seventh day after the fall. The necropsy showed meningitis, several fine cracks in the frontal bone, and a slit in the basi-sphenoid three-quarters of an inch long and one-sixteenth of an inch wide, through which a fine probe could be passed into the nose. The posterior end was close to the pharyngeal end of the left Eustachian tube. Mr. Larkin thinks that the deafness and otitis were probably due to pressure on the Eustachian tubes from swelling of the parts. He refers to another still more remarkable case previously recorded by him in which fracture of the frontal bone extending into the fronto-ethmoid region resulted from a bicycle accident. The patient recovered from the injury and resumed work but was much annoyed by a watery discharge from the nose. This suddenly stopped six weeks after the accident. The patient seemed quite well but occasionally complained of frontal headache. Nine months after the accident he died from meningitis. Only one other case of cerebro-spinal rhinorrhœa after fracture of the skull in which the diagnosis was verified by necropsy has been recorded. In this one, reported by Bosworth, there was a fracture of the cribriform plate of the ethmoid and death occurred on the eighteenth day after the injury. In neither of the cases recorded by Mr. Larkin was there any attempt at union of the fracture through the thin scaly bones. He suggests that cerebro-spinal rhinorrhœa often occurs after fracture of the skull and is unnoticed. Patients with fractured skull being kept very quiet in the recumbent posture the escape is probably small and the fluid is swallowed. The treatment which he recommends is to keep the nose as sterile as possible and the patient recumbent in bed in the hope that protective adhesions may form before infection occurs. Tillaux has described a case in which discharge of cerebro-spinal fluid from the nose resulted from the forcible removal of polypi and continued off and on for six years until the man died from convulsions.

THE EFFECT OF AGITATION UPON THE MICROBE.

MOST germicides are more or less poisonous to the human organism and therefore the destruction of bacteria in food and drink by the addition of powerful antiseptics is not available. It is well known, however, that certain physical agencies exert a germicidal action, as, for example, light, electricity, and heat, and to these must be added the curious influence of mechanical shock. According to a number of interesting experiments on this point there can be little doubt that the vitality of lower organisms is influenced by agitation, even to the extent of total destruction. Thus by submitting to violent agitation certain bacterial cultures it has been found that the number of germs diminished to less than one-tenth of that originally present. Ultimately, by prolonging the treatment, the liquid was entirely freed from active germs and failed to develop further organisms, even when placed under favourable conditions. By adding some glass beads to the bacterial culture the effect was more prompt, the liquid rapidly becoming sterile. In another experiment bacterial cultures were allowed to stand in an engine-room of a large manufactory in which an incessant vibration was produced by the strokes of the engine with the result that after four days the vitality of the germs was completely destroyed, while in the control samples which were left in a quiet place the germs, it was found, had retained their activity. It would appear from this interesting experiment that minute vibrations have the power of hindering the growth of micro-organisms as well as violent shocks, while if either treatment be continued the germs at length die. The reason why the vitality of the cell is thus cut short is not quite clear but apparently the cells cohere and form a palpable powder. Further experiments in this direction would be very interesting with the view of determining as to how far the process would be effectual in regard to the destruction of microbes in food. At the present time the oyster trade would welcome such a method could it be shown that it effectually destroyed the bacilli of the colon series in the oyster without disturbing its structure or spoiling its flavour. In which case the guaranteed "agitated native" would be in brisk demand. The shaking, however, would have to be severe, no less than 180 reversed movements per minute over a distance of 15 inches being necessary.

AN EXEMPLARY SENTENCE FOR CRUELTY.

A CASE of child-farming which was recently decided at the Middlesex Quarter Sessions is remarkable in more ways than one. The accused were persons living in comparative comfort, a retired clerk, his wife, and daughter, with a total income of about £160 a year. They had under their care no fewer than nine children, the eldest aged seven years and the two youngest 10 and 11 months respectively. With most of these children sums of money varying from £10 to £30 had been received. The two infants were kept in a rush portmanteau without either bedding or covering save a linen cloth. The weather when the "baby farm" was broken up was bitterly cold. The other children were very insufficiently clad and slept on the floor without bed or covering. All were half-starved and ravenously hungry with the exception of one who was stated to be the daughter's child and appeared to be comparatively well-cared for. In the face of such facts as these a conviction was inevitable, and we are not sorry that it was accompanied by the exemplary sentence of three years' hard labour in the case of each offender. The children were taken into the workhouse. The credit of discovering this den of wickedness and misery, and of tracking its proprietors under changes of name and residence till their apprehension, belongs to the National Society for the Prevention of Cruelty to Children. There was a more or less overt attempt made on the part of the defendants in this trial to impute an excess of zeal to the agents of the society, but without success. The presiding justice had fortunately no sympathy with this view; on the contrary, he took occasion to note the absolute fairness which had marked the proceedings of the society in all cases conducted by it which had come under his observation.

FOOD POISONING AND EPIDEMIC DIARRHŒA.

SEVERAL important questions bearing on the mutual relations of food poisoning and epidemic diarrhœa engaged the attention of the Epidemiological Society at its two last meetings held on Dec. 12th, 1902, and Jan. 16th, 1903. Professor Sheridan Delépine introduced the subject with a paper on the Bearing of Outbreaks of Food Poisoning upon the Etiology of Epidemic Diarrhœa. After defining epidemic diarrhœa as an infectious disease affecting many persons at the same time, more especially during the hot season and in populous districts, where it caused a high mortality among children, he said that the bacteriology of it was far from being settled. Most observers, following Escherich and Hueppe, believed that the bacillus coli communis was the most important factor in its causation, but Finkler and Prior ascribed it to a spirillum, Klein to the bacillus enteritidis

sporogenes, Holst to various streptococci, and Baginski to bacillus lactis aerogenes. After giving particulars of various outbreaks which he had carefully examined, especially those of milk diarrhœa at Manchester in 1894 and of pork pie and sausage poisoning at Derby in 1902, he said that the general conclusions at which he had arrived were that epidemic diarrhœa was caused by bacteria of the bacillus coli group, the least virulent being those that most resembled the bacillus coli communis of Escherich and the most virulent being those that most closely approximated to the bacillus enteritidis, especially the bacillus enteritidis of Gaertner. The most dangerous were consequently those that acidified or coagulated milk or imparted an offensive odour to it and the obvious precautions to be observed were cleanliness, consumption as early as possible, refrigeration to 4° C., or sterilisation by heat. Dr. Arthur Newsholme opened the discussion and expressed the opinion that while on the one hand milk might be contaminated on the cowkeeper's premises or during transit to the consumer and might in this way give rise to sudden and widespread epidemics, yet, on the other hand, in the numerous sporadic cases which occurred it was far more probable that it became contaminated at the home of the consumer, especially among the urban poor. The storage of milk and other food in living- and sleeping-rooms, and the opportunities for its infection by flies which are just come from a privy or other fæcal collections were amply sufficient to account for the prevalence of autumnal diarrhœa and sporadic typhoid fever.

THE RECENT INCIDENTS IN THE GRENADIER GUARDS.

WE have received several communications concerning what is known as the "Guards Scandal," inviting an opinion on this deplorable matter from a medical point of view. The medical bearings of the case seem to us remote, but this appears not to be the opinion of some of our readers. Firstly it is suggested that the corporal injury inflicted by the illegal tribunals of junior officers might produce some of the terrible results that are known to have followed upon flogging in the army in the olden days. In spite of one passage in Admiral Cochrane's shocking letter published in the *Times* on Tuesday last we do not think it at all probable that actual physical harm—harm, that is, of the sort that might be serious to health—has ever been done in the course of the extraordinary and degrading ritual practised upon each other by the junior officers of the Grenadier Guards. Acute mental suffering, resulting, perhaps, in grave impairment of the efficiency of the victims to discharge their duties as officers, may have occurred, and upon such a condition a breakdown in health may have followed; but we do not suppose that any physical injury directly due to violence can be proved to have taken place. Secondly, we have been asked to consider the possibility of a perverted sexual impulse playing a part in the disciplinary code of the Grenadier Guards. We consider the suggestion a completely ridiculous one, and, were it not that certain so-called humanitarians are sure to begin yelling of flagellation and Sadism, we should not mention the matter. We do so now only to laugh at it. But the bare fact that such notions can enter educated brains shows that the incidents must now be thoroughly sifted and explained, and that punishment must be meted out with a strong hand to the true offenders, even though innocent persons have to suffer for an evil system or individuals in high posts have to pass out of official life. We have lately in our columns discussed certain of the reasons that contribute to the difficulty which our country has in obtaining an efficient army. A few more such stories as those that are now rife concerning the Grenadier Guards will leave us with no officers at all. Therefore the stories must be made the subject of rigorous scrutiny. Students of high education and elaborate training are not likely to enter upon a career where, even while they are successful in the performance of the duties which their country expects from them, they may have to submit to a disgusting penal code; yet these are exactly the kind of men whom recent events show to be the officers that we want. Again, those fortunate youths of rank and position whose desire it has hitherto been to be officers in our cavalry regiments, and whose personal prowess no one who remembers the episodes of our struggle with the Boers can deny, will certainly not desire commissions any longer. We regard the situation as a most serious one, calling for an immediate, full, and fearless investigation.

EPSOM COLLEGE.

His Royal Highness the Prince of Wales has consented to take the chair at the festival dinner to be held this year, at a date shortly to be announced, in aid of the funds of the Royal Medical Benevolent College. The interest taken by the Royal Family in the affairs of Epsom College is thus again manifested, for some 50 years ago the buildings of the College were opened by the Prince Consort, who was accompanied by a little boy, his eldest son, our present King.

BURIAL GROUND SITES.

ALTHOUGH both the testimony of experience and the tendency of certain bacteriological investigations seem to show that the danger to be anticipated from a properly managed graveyard is not so great as was once believed, it is eminently desirable that sites for such places shall be selected with the greatest circumspection. Not only must attention be given to the possibility of the pollution of water-supplies, whether public or private, but the probability of the insuction of polluted ground air into houses which have not been properly protected against such insuction must be carefully guarded against. Moreover, it cannot be contended that the proximity to an inhabited house of a burial ground which is in actual use is a matter of indifference to the landlord or occupier of such house. Although experience may have shown that houses have been built up to the boundaries of existing burial grounds, and that it is difficult to detect any detrimental effect upon the health of the occupiers of such houses, it seems to us that the provisions of the Public Health Interment Act of 1879, which enact that in the absence of the written consent of the owner, lessee, or occupier of a house, no part of a cemetery shall be constructed nearer to such dwelling than 200 yards, should, on the grounds of public health and equity, be duly observed. The margin provided for is not a very onerous one and it can hardly be contended that the exigencies of interment are at present so pressing as to call for legislation which shall dispense with this very reasonable provision. Certainly, were we the possessors or occupiers of a house and a medical officer of health were to press the establishment of a burial ground within, say, 100 yards of such house, we should do our best to convince the justices that the step would be an illegal one. There would seem to be no justification for a sanitary authority, the duty of which it is to see that the Public Health Acts are observed, to attempt, without extremely strong and altogether exceptional reasons, to run counter to such statutes, and certainly the Public Health Interment Act was enacted largely as a public health measure. A sanitary authority which makes light of

its obligations may find the public quick to follow the example.

THE Lettsomian Lectures of the Medical Society of London will be delivered by Dr. H. Radcliffe Crocker on Feb. 16th and March 2nd and 16th, their subject being "The Conditions which modify the Characters of Inflammations of the Skin and their Influence on Treatment." The lectures will commence at 9 P.M.

THE Lord Mayor and the Lady Mayoress of London will on Monday, Feb. 16th, at 3 P.M., open the 30 additional beds at the Royal London Ophthalmic Hospital, towards the maintenance of which a grant has been made by King Edward's Hospital Fund for London.

THE Hunterian Oration of the Royal College of Surgeons of England will be delivered in the theatre of the College on Saturday, Feb. 14th, at 4 P.M., by the President, Sir Henry G. Howse.

THE anniversary dinner of the Medical Society of London will be held at the Whitehall Rooms, Hôtel Métropole, on Saturday, March 7th, at 7.30 P.M.

THE FIRST REPORT OF THE DEPARTMENTAL COMMITTEE APPOINTED TO INQUIRE INTO THE VENTILATION OF FACTORIES AND WORKSHOPS.[1]

THIS report serves to mark a considerable advance in knowledge regarding the practical application of methods of ventilation and describes an apparatus which has been designed for the rapid determination of the amount of carbon dioxide (carbonic acid) which is present in the air. These two points are perhaps the most important features of the book, but a very large amount of information on various other important matters is to be found scattered through its pages, and much of this material will be very useful to those who write text-books on hygiene and questions concerning the public health generally.

The departmental committee responsible for the report was appointed by Sir Matthew White Ridley in July, 1900, when he was Secretary of State for the Home Department. It consists of two members only, Dr. John Scott Haldane, F.R.S., and Mr. E. H. Osborn, engineering adviser to the Chief Inspector of Factories. The report itself is short, consisting only of three pages, and there are three appendices which deal respectively with (1) the results of examinations of ventilation of factories and workshops; (2) the conditions of efficient ventilation; and (3) the method for the quantitative determination of carbonic acid in the air of factories and workshops.

The apparatus which has been devised by Dr. Haldane for the rapid determination of the amount of carbonic acid contained in a specimen of air is fully described and there are three illustrations, two of which were drawn up by Mr. Pendock. By its use an analysis may be completed, it is stated, in about four minutes, and those who have had the practical experience of making such determinations with the apparatus formerly in use will welcome any improvement which may be made. It should be added that the new apparatus is not bulky and that it is easily portable. Another instrument has been devised to facilitate the extraction of specimens of air contained in small vessels and illustrations are given of bottles fitted with glass stoppers and provided with elastic bands and labels. By means of these appliances it will be easy for factory inspectors to take a number of specimens of air and for the analyst to carry out a large number of analyses in a short time. It must be confessed that the amount of air operated on is very small, not more than 25 cubic centimetres, and therefore any slight error of reading would make a great difference when calculated to 10,000 volumes of air. And we observe that Dr. Haldane obtains decidedly lower results for normal air than are given at any time in the classic researches of Pettenkofer, Risler, Saussure, Angus Smith, Marcet, and others.

The results of examinations of the air of factories and workshops which are given in Appendix I. (pp. 7-90) show clearly enough that the present condition of things is by no means satisfactory. The experiments recorded were carried out in the case of a vast number of trades, clothing factories, both English and Jewish, tailoring workshops, dressmaking and boot workshops, laundries, cabinet and upholstering works, bakeries, printing offices and stationery factories, engineering and file-cutting factories, woollen and cotton mills (humified and non-humified). Some of the places examined are briefly described in the tables which are given, and it is not unworthy of note that some of the worst are in the rural parts of England. This point cannot be dwelt upon and a single example must suffice. A boot workshop in Gloucestershire was found to be "a stuffy little place with less than the statutory (minimum of) 250 feet per person. Dark, dingy, and wretched, smell of oil, rough earth floor, very dirty, air stagnant and obviously foul." Analysis of the air showed that it contained 23·4 volumes of carbonic acid per 10,000, the corresponding amount in the outside air being 3·0.

The account given of the conditions necessary for efficient ventilation (Appendix II., pp. 93-144) is of extreme value. It commences by recording analyses of air in towns and in the country and then deals in detail with the nature of the impurities contained in the air of factories and of workshops, impurities from persons, from "lights," from dust and from fumes, and particulate matter given off in special processes of manufacture. The influence of the various impurities on the composition of the air is considered in detail. For purposes of description ventilation is divided into (1) natural ventilation, (*a*) without special openings, (*b*) through special openings; and (2) ventilation by fans. The information on the latter subject, which is clearly and concisely given, will prove of great service to manufacturers who have at heart the good of their workpeople. The more general use of fans in large factories is greatly on the increase, and in cases in which large numbers of people are present in a small space their use is now universally appreciated. The advantages of the method—which are, briefly, that a practically unlimited amount of air can be introduced, that the supply is under control, that the incoming air can be warmed, moistened, or filtered should occasion require—are fortunately becoming matters of common knowledge. There is, however, one fact established in the report which has hitherto not obtained the attention which it deserves. It has of course been generally known that ventilation is carried out in no small measure through the walls of buildings, but the fact that a very large proportion of the fresh air is introduced in this way is by no means a fact which is fully appreciated. Its importance is great, and we have often insisted on this subject, especially when dealing with experiments on ventilation made on the continent and the teaching of that eminent architect and sanitary reformer M. Emile Trélat. It makes it at once evident why a detached house has the advantage of a semi-detached house and why the end house of a row is better than one which has houses on each side. These things have been long recognised by the observant, although the reason of them was not generally understood. The results of a series of experiments on the introduction of air through the wall of a room are given in the report and the information derived from them may come as a surprise to many people. It is hardly necessary to say that too much importance should not be given to a single series of experiments and the subject is certainly worthy of further investigation under varying conditions. For example, the nature and thickness of the walls of the room, the solidity or hollowness of the walls, the presence or absence of paper and of paint, and the composition of the paper—all these things will undoubtedly be found to affect the result.

The recommendations given to the Secretary of State by the departmental committee are five in number and are as follows:—

1. That the Secretary of State should prescribe for all classes of factories and workshops not otherwise specially dealt with that the proportion of carbonic acid in the air at about the breathing level and away from the immediate influence of any special source of contamination, such as a person or light, shall not (except on very foggy days, when no tests should be made, on account of the vitiated state of

[1] London, 1902 (Cd. 1302), Eyre and Spottiswoode.

the outside air) rise during daylight, or after dark when only electric light is used, beyond 12 volumes of carbonic acid per 10,000 of air, and that when gas or oil is used for lighting the proportion shall not exceed 20 volumes after dark or before the first hour after daylight; the only exception to this rule to be in cases where the extra carbonic acid is produced in other ways than by respiration or combustion, as in breweries, &c.

2. That in the case of cotton-cloth factories with artificially humidified air the occupier should have the option of coming under the regulation just mentioned, instead of remaining under the existing regulation.

3. That inspectors of factories should inform employers of the results of any official analyses of the air in their factories or workshops, should give notice that the ventilation is deficient to any employer in whose factory or workshop the above proportions have been found to be exceeded, and at the same time supply, so far as practicable, information as to the nature of any defect noticed; and that legal proceedings should not be taken against an employer unless, after a reasonable interval following such notice, the stated proportion is found, on an average of two or more samples taken in different parts of the room, to be again exceeded by one volume or more and he is unable to show that he has taken measures reasonably calculated to secure the requisite ventilation.

4. That arrangements be made by the factory department of the Home Office for the analysis by a specially qualified person or persons of samples of air collected by inspectors (see Appendix III.) and that any analysis on which a prosecution immediately depends shall have been performed by such qualified person or persons.

5. That arrangements be made for inspectors of factories to have the use, when desired, of a properly tested portable apparatus for estimating on the spot the proportion of carbonic acid in air.

It may be seen from what has been said that the report deserves careful consideration. In regard to the recommendations which are given *in extenso* it must suffice to say that the first is open to very grave objection; the last two, it will be seen, are devoted to recommending the general use of Dr. Haldane's apparatus.

PUBLIC HEALTH IN BOMBAY.

IN his annual report for the year 1901[1] Dr. J. A. Turner, executive health officer of the city of Bombay, gives much information highly valuable from the point of view of urban sanitation and public health. A report in which he dealt with the occurrences of the first quarter of 1901 was published a considerable time ago and was reviewed at some length in THE LANCET of Sept. 14th, 1901, p. 746, chiefly with reference to proposals which he had made for an improved sanitary administration of the city. The present report with its statistical appendices consists of 96 closely printed pages and is illustrated with four coloured diagrams. Bombay is built on an island which has an area of about 22 square miles and part of which is below the level of high-water mark, so that drainage presents considerable difficulties. Increase in sickness during, and immediately after, the rains, which occur in June, July, and August, is chiefly due to the dampness of the soil and moisture of the atmosphere. In most of the houses of the poorer classes the floors are of mud and cowdung and the people sleep on the ground. The cold weather season, extending from December to March, is the period of highest mortality, the hot weather from March to June the lowest, and from June to November the period of seasonal increase in the mortality. In the cold weather when the people are obliged to sleep indoors, overcrowded and in a vitiated atmosphere, plague spreads rapidly, while the cold air easily affects them when exposed to it, causing diseases of the respiratory system. The population, according to the census of 1901, was 776,006, the proportion of males to females being 161·9 to 100. The principal divisions of the population were as follows: Hindus, 582,947; Mussulmans, 155,121; Parsees, 46,231; Jews, 5357; Native Christians, 29,645; Eurasians, 3258; and Europeans, 12,273.

The number of births registered during the year was 13,520, giving a birth-rate of 17·42 per 1000. The number of deaths during the year, exclusive of stillborn, was 59,495, giving a death-rate of 76·6 per 1000. Of late years the death-rate has fluctuated considerably and has increased very much since plague acquired a footing in the city. Thus the rates per 1000 were 29·0 in 1891, 30·5 in 1895, 58·3 in 1897, 63·2 in 1898, 68·1 in 1899, 96·5 in 1900, and 76·6 in 1901. The number of deaths from zymotic diseases was 30,593, giving a zymotic death-rate of 39·4 per 1000. The detailed list shows that 18,736 deaths were due to plague, 7266 to remittent fever, 1560 to relapsing fever, 1341 to dysentery, 514 to puerperal fever, and 198 to cholera. The total deaths among Europeans were 189, the detailed list showing that of these 18 were due to enteric fever, 14 to ague and remittent fever, 10 to plague, 29 to diseases of the nervous and circulatory system, 20 to diseases of the respiratory system, and 46 to diseases of the digestive system. The deaths are also classified according to the occupation of the deceased—whether engaged in, or belonging to, the service of the imperial, local, or municipal governments, the army or navy, the learned professions, domestic work, commerce, agriculture, and so on; for some unexplained reason one of the nine sub-headings under "learned professions" specifically includes dancers, jugglers, snake-charmers, and billiard-room keepers.

During the greater part of the year the control of all plague measures was under the Government, as in the previous year, but in October Dr. Turner took over the duties of supervision in addition to his own and the control of plague is now in the hands of the Health Department. The mortality from this disease began its seasonal rise in December, 1900, reached its maximum in February, 1901, and then declined. There were 21,006 attacks and 18,736 deaths from plague during the year, as against 17,913 attacks and 13,285 deaths during the previous year, and the increase was felt in all the communities except the Europeans, among whom there were only 10 deaths, as against 11 in the previous year. The mortality from plague was highest on Feb. 26th, when 214 deaths were registered. The measures adopted for controlling the disease were the provision of camps for those willing to evacuate plague-stricken houses, disinfection by washing the rooms with perchloride of mercury and phenol, and fumigation with sulphur. Compulsory removal to hospital was not practised. The disease was of a very virulent type, the mortality in hospitals varying from 79 to 91 per cent. The preparation of Lustig's anti-plague serum was continued throughout the year at the municipal laboratory and patients at the Arthur-road Hospital were treated with it.

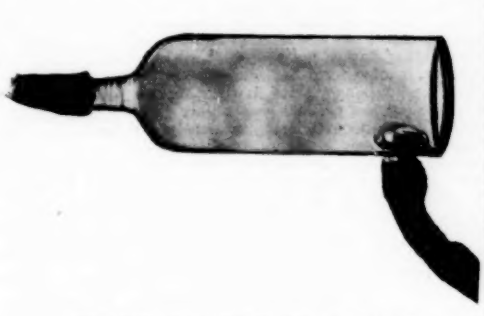
Dr. Turner devotes several pages to an enumeration of the defects existing in the sewerage system of the city and in the methods of dealing with excrement and refuse. He also makes a variety of suggestions for their improvement. On the subject of the administration of the Health Department he says that during the past three years the investigation into the cause and control of all epidemics of infectious disease has not been vested in the Health Department, and that a health officer's ardour must be damped when his more important and interesting work is transferred to others unqualified in any way for the position. The work of the Health Department has, however, now reverted to its proper channel. During the year he was called upon to submit a report on the reorganisation of the department, and his report was directed chiefly towards—(1) an improved sanitary inspection; (2) a better class of inspectors; (3) a better system of refuse removal; (4) a more complete system of registration of births and deaths and notification of infectious diseases; (5) inspection of food, drugs, and milk-supply; (6) a laboratory for analysis of food and drugs and chemical and bacteriological examination of water and pathological products; (7) a municipal analyst; and (8) ten municipal dispensaries. Progress has been made in the carrying out of these recommendations. Of the other points in which improvement is required the chief are: (1) hospital accommodation; (2) medical relief; (3) house drainage; (4) housing of the poor and overcrowding; and (5) control of milch cattle stables by the Health Department with registration of all cow-keepers and milk-sellers. The Arthur-road Hospital is at present the only accommodation provided by the municipality for cases of infectious disease other than plague and the expenditure on it is relatively small, being only Rs.40,000, or £2660, per annum. Dr. Turner recommends that the accommodation should be increased and made sufficient for the reception of 100 patients. In order to counteract the prejudices which the poorer classes have against hospital treatment he proposes to issue a circular inviting them to visit Arthur-road Hospital so that they may see for themselves how well the sick are treated. We presume that these visitors would be admitted only to the parts of the institution occupied by convalescents fit for discharge. The highest

[1] The issue of this report is not so belated as might be inferred from the fact that it only reached us about a fortnight ago. Much time is sometimes taken up in the preparation of such documents for publication and in submitting them to various official departments. Moreover, the statistical returns of patients admitted into the Arthur-road Hospital are brought down to May, 1902.

mean monthly shade temperature recorded at Bombay Observatory was 86 6° F. for May. The total rainfall was 75·32 inches, of which 72·33 inches fell in June, July, and August.

CLEANING BY VACUUM.

THERE are few surely who are not averse to the ordinary annual house-cleaning process commonly called "spring cleaning," at any rate during its progress, however pleasant and comfortable the results may be. "Spring cleaning," in fact, entirely disturbs the routine of a household and the occupant, unless he is lucky enough to be able to go away during the process, is put to manifold kinds of inconvenience and discomfort. Therefore, a process by which it is proposed to reduce this inconvenience to practically *nil* whilst the work of cleaning is done effectively is certain to be welcomed by a very large section of the community. But the vacuum cleaning process deserves attention not on account of its being expeditious only but because it removes dust, and therefore septic matter, in such a way as to render their complete destruction ultimately possible. The process is simple enough and, indeed, such that it is a little astonishing that it has not been suggested and applied before. When spring cleaning is to be done a machine is sent to the house provided with a pair of vacuum pumps actuated by an oil or electric motor which serve to maintain an "exhaust" of several pounds to the square inch. Varying lengths of hose are connected with this "exhaust" and terminate in so-called "cleaners" or "renovators" which consist of tubes flattened out at the end into a kind of long slit. The "renovator" is rubbed up and down the carpet or the cloth coverings of seats or chairs from which it rapidly sucks out all the dust. The result is quite remarkable. The dust is extracted not only from the surface but from the body of the carpet also, so that at the end of the process not the slightest cloud of dust can be detected on beating the material. On sprinkling the carpet with flour, rubbing it well in so that it disappears to view, the vacuum renovator will be found to remove every particle. As is well known, flour is a somewhat greasy dust and it is therefore a severe test on a heavy carpet. To illustrate the rapidity and efficacy with which the dust and dirt are removed in this way a bottle may be interposed in a length of the hose at a point between the renovator on the carpet and the pumps outside. With a very dirty carpet or heavily upholstered chair (especially the saddle-bag) or curtain, or even with dust-laden clothes, the bottle is seen to be full of dust taking the form of a spiral rapidly passing through the bottle. It is difficult to reproduce what takes place, but the following illustration gives some idea of the effect. By this system it is thus possible to extract all the dirt and dust in the carpets, curtains, furniture, bedding, &c.,



Bottle during the application of the "renovator."

in situ. Carpets need not be taken up and need not be sent away, or curtains, furniture, or bedding, and the whole operation in a 10-roomed house need not occupy more than eight hours, the time taken depending upon the amount of dirt it is possible to remove and upon the nature of the furniture.

It is remarkable, as it is important from a sanitary point of view, that during this process dust or dirt is not raised in the room, for exhaustion is proceeding the whole time, the air of the room is constantly being changed, and it will be found when the cleaning process is over that the shelves, the mantelpiece, or the cover of the piano will be free from all signs of deposited dust. This result alone constitutes a great advance on other methods which at their best remove the dust from one place only to scatter it in another. Such, at any rate, is largely the result of sweeping. Far from producing any deteriorating effect upon the carpet it improves it by restoring the pile and its colour. The restoration of the colour, especially of a dirty oriental carpet, is very marked and is seen the moment the renovator is applied. In a similar way the dust may be removed from the walls by means of a special cleaner which consists of a brush of horse-shoe shape provided with an exhaust tube in the centre. The dust and dirt rapidly travel along the hose to the exhaust cylinder of the machine where they are deposited upon a screen.

An idea of the amount of dust which this method is capable of removing will be gained from the following results of its application to certain of the theatres and hotels of London. The carpets, curtains, and upholstery of the Royal Camden Theatre yielded no less than 408 pounds of dust by this method; similarly the Kennington Theatre yielded 382 pounds and the Coronet Theatre, Notting-hill-gate, 300 pounds, the Midland Hotel, St. Pancras, 196 pounds, the Savoy Theatre 82½ pounds, the coffee-room and smoking-room of the Junior Army and Navy Club and smoking-room carpet 68 pounds, a restaurant carpet from the Carlton Hotel 46 pounds, a railway-carriage on the London and North-Western Railway 4¾ pounds, the tea-room and corridors of the House of Commons 25 pounds, and so on. We have seen the process at work in a music-hall and in a private dwelling-house and in both cases the results were very striking and the demonstration was very satisfactory. The value of this method from a sanitary point of view is self-evident, for the dust is entirely removed without scattering and is then collected for subsequent incineration. According to Mr. Stanley Kent of the Clinical and Bacteriological Research Laboratory, University College, Bristol, the following organisms were isolated from a specimen of dust removed by this process—proteus vulgaris and other forms of proteus, bacillus subtilis, streptococcus (several forms), staphylococcus pyogenes aureus, staphylococcus pyogenes albus, diplococcus (several forms), sarcina flava, micrococcus tetragenus, micrococcus prodigiosus, and the following moulds: mucor mucedo, penicillium glaucum, and a red yeast. A sample of house dust removed by this process and taken by ourselves at a demonstration gave the following results on analysis: organic matter, 35·30 per cent.; moisture, 5·30 per cent.; and mineral matter, 59·40 per cent. Under the microscope starch cells, human hair, cotton fibre, &c., were easily detected. The mineral matter contained common salt, potassium carbonate with some lithium carbonate (probably from tobacco ash), sand, clay, silica, alumina, and iron. The process is not costly considering the thorough way in which the work of cleaning is done and having regard to the inconvenience which it avoids and the expense which it saves, due, under existing methods, to removing carpets and replacing them, picking mattresses to pieces, and so forth. The satisfactory removal of dust and dirt from the interior of a house has long been a troublesome matter, though sanitation demands that it should be regularly done, and this process, it seems to us, deals with it in a much more scientific way than has hitherto been possible. This method of cleaning by vacuum is being developed by the Vacuum Cleaning Co., Limited, of 25, Victoria-street, Westminster, London, S.W.

ASYLUM REPORTS.

London County Asylum, Hanwell (Report for the year ended 31st March, 1902).—The average number of patients resident during the year was 2537, comprising 957 males and 1580 females. The admissions during the year amounted to 480—viz., 297 males and 183 females. Of these 396 were first admissions. Dr. R. R. Alexander, the medical superintendent, states in his report that 19 per cent. of the male admissions and 4 per cent. of the female were cases of general paralysis. As the result of careful inquiry into the

histories of patients it appeared that about 80 per cent. of the general paralytics had had syphilis. As to the causes of the mental disorders among the patients admitted alcoholic intemperance was found in 32 per cent. of the males and 16 per cent. of the females. The corresponding figures for males were 15 per cent. in 1898, 20 per cent. in 1899, and 25 per cent. in 1900; and for females the figures were 8, 12, and 13 per cent. respectively. Dr. Alexander emphasises the "increasing share alcohol has directly or indirectly in the production of insanity, especially in the case of the men," and adds that if due allowance were made for the wilful concealment of a history of intemperance by relatives and friends of the patient the etiological frequency of alcoholism would be higher than the above. A hereditary predisposition to insanity was ascertained in 18 per cent. of the males and 30 per cent. of the females. The number of patients discharged as recovered during the year amounted to 163—viz., 79 males and 84 females, or 6·4 per cent. of the average number resident. The deaths during the year amounted to 212—viz., 119 males and 93 females—or 8·3 per cent. as calculated on the same basis. Of the deaths, five were due to renal disease, seven to colitis, 12 to epilepsy, 13 to inflammation of the lungs, 19 to cardiac disease, 20 to senile decay, 21 to pulmonary and other forms of tuberculosis, 62 to general paralysis of the insane, and the rest to other causes. The general health of the institution had been good. There had been two cases of enteric fever and two small outbreaks of dysentery. The latter could not be traced to overcrowding or any other sanitary defect. "Judging by its high infectivity, its tenacious hold on a ward, its stubborn resistance to treatment, its heavy mortality in the broken-down, and its marked tendency to recur without any abatement of its original infectivity, I am disposed to believe that our dysentery of recent years is of a different variety from the sporadic dysentery that occasionally figured in our sick and death returns prior to 1895." There were no serious casualties in the institution during the year. A male patient while out on trial made a murderous attack on his wife, who ultimately recovered, though for a time her life was despaired of. During the epidemic of small-pox in London all precautions, including vaccination of patients and restriction of visits from relatives, were adopted and the results were quite satisfactory. The Commissioners in Lunacy state in their report that the asylum continued to be maintained in very good order, that the dormitories and bedding were scrupulously clean, that the patients were neatly dressed and orderly in habits, and that the medical case-books were well kept. The committee of management states in its report that alterations and improvements according to a scheme approved by the London County Council in 1894 were completed, the net expenditure having amounted to £66,840. The expenditure on ordinary repairs and alterations during the year was £7689.

London County Asylum, Bexley-heath (Report for the year ended March 31st, 1902).—The average number of patients resident during the year was 1893, comprising 942 males and 951 females. The admissions during the year amounted to 1175, including 502 males and 673 females. Of these 1145 were first admissions. Dr. T. E. K. Stansfield, the medical superintendent, states in his report that the year has been one of great pressure and "the asylum is now fully occupied. The villas which constitute one of the leading features of this asylum have now been in occupation under sufficiently varying conditions of season, weather, and temperature to justify one in giving a definite opinion as to the value of this system of housing a large proportion of the insane, as compared with the most recent 'barrack' system typified in the other part of the asylum, and I have no hesitation in pronouncing in the strongest terms in favour of the former." The number of cases among the admissions suffering from advanced age and physical decrepitude was unusually large, 206 patients, or 17·5 per cent., being over 60 years of age. Pediculosis to a greater or less extent existed in 23 per cent. of the admissions. Evidences of syphilis were made out in 131 cases, or 30 per cent., among the males, and in 61, or 19 per cent., of the females. "The form of insanity most frequently associated with syphilis is general paralysis. 79 males and 20 females were admitted suffering with this disease (general paralysis) and of these 59 males (74·6 per cent.) and 11 females (55 per cent.) had undoubted evidence of syphilis." Alcoholic intemperance was present in 181 of the admissions, comprising 130 males (30·7 per cent.) and 51 females (16 per cent.), the form of intemperance being heavy drinking or secret "tippling" in small quantities for many years. The number of patients discharged as recovered during the year amounted to 202—viz., 98 males and 104 females—or 9·5 per cent. of the average number resident. The deaths during the year amounted to 281, including 157 males and 124 females, or 14·8 per cent. as calculated on the same basis. Of the deaths six were due to epilepsy, nine to bronchitis, 10 to renal disease, 15 to colitis, 21 to pneumonia, 27 to phthisis and other forms of tuberculosis, 32 to cardiac disease, 89 to general paralysis of the insane, and the rest to other causes. The general health of the institution has been good, with the exception of colitis, "which disease has, I fear," adds Dr. Stansfield, "become endemic here." Influenza was prevalent in January and February. The well has yielded a constant supply of excellent water and the farm crops are reported as particularly good. The Commissioners in Lunacy state in their report that the patients were orderly, neat, and tidy, that the dormitories and day-rooms were in very good condition, and that the medical case-books were admirably kept. The committee of management states in its report that the whole institution is fitted with telephones and fire-alarms and lighted with electricity. The expenditure on alterations, repairs, and improvements amounted to £4606 during the year.

Montrose Royal Asylum (Report for the year ended May 14th, 1902).—The average number of patients resident during the year was 690, comprising 317 males and 373 females. The admissions during the year amounted to 189—viz., 86 males and 103 females. Of these 152 were first admissions. Dr. John G. Havelock, the medical superintendent, states in his report that a large number of the patients who were admitted were "in very frail bodily health, some in the last stages of incurable disease and many others in a state of senile decay with the vital functions rapidly wearing out." There seems to be an increasing tendency in the poorer classes, adds Dr. Havelock, to send such cases to an asylum rather than to attempt to manage them in their own homes until the end comes, with the result that asylum accommodation is taxed to its utmost. The prejudice against asylums is gradually disappearing under the influence of modern methods of asylum management and the custom of sending to asylums idiots, half-witted youths, disorderly inebriates, restless dotards, and persons who are the victims of drug habits is on the increase, and causes the appearance of a rapid growth in lunacy among the population. The number of patients discharged as recovered during the year amounted to 74, or 10·7 per cent. of the average number resident. The deaths during the year amounted to 95—viz., 35 males and 60 females, or 13·7 per cent. as calculated on the same basis. Of the deaths three were due to epilepsy, four to cardiac disease, six to cancer, eight to pulmonary and other forms of tuberculosis, nine to exhaustion from mania and melancholia, 14 to lobar pneumonia, 15 to general paralysis of the insane, 24 to senile decay, and the rest to other causes. "An outbreak of influenza in the winter months was followed by various complications which carried off a number of feeble senile patients, causing the death-rate to be higher than the average of recent years." The erection of a new villa for female patients has been started and it is hoped to complete the building during the year 1903. The whole of the institution is now furnished with electric lights. The Commissioners in Lunacy state in their reports that the general condition of the patients was highly satisfactory, that the dietary was adequate and judiciously arranged, that the wards and rooms were in excellent order, and that the medical case-books and registers were carefully and correctly kept. The committee of management states in its report that the profit on the farm and garden account was £414 during the year, that a system of telephones has been fitted throughout the building, that a villa for male patients has been completed and is now occupied, and that the villa for female patients will be completed in a short time.

MEDICINE AND THE LAW.

Injury by Nervous Shock.

IN an action tried before Mr. Justice Bigham at the Devon assizes the plaintiffs, a husband and wife, were tenants of a house and the defendants were making excavations at an adjoining site. This they did with the result that the

house occupied by the plaintiffs, after showing signs of subsidence, fell in ruins. The female plaintiff, finding that her home was apparently threatened with destruction, hurried out to a relative near by to ask what she should do, leaving her children behind her. As she was returning the actual collapse took place with the result that, knowing that her children might be buried in the ruins, she sustained a very severe fright and shock with consequent injury to her health. The children had, as a matter of fact, been removed to a place of comparative safety and had not suffered. After a legal argument the judge left the following questions to the jury: whether the shock sustained by the plaintiff was due (1) to fear for her own personal safety, or (2) to fear for the safety of her children, or (3) to fear for the safety of herself and her children. The jury found that it was due to the last of these alternative causes, and in reply to a further question also found that the shock had produced personal injury. Upon this the judge directed them that the plaintiff was not entitled to damages in respect of the shock caused by fear for the safety of her children, but that they might be awarded to her in respect to the shock caused by fear for her personal safety, and he told them to apportion the damages accordingly, with the result that the plaintiffs obtained a verdict for £250. The question of liability for fright resulting in nervous shock and actual injury to health is a more or less open one in the eye of the law. The Privy Council has held in a case that came from the colonies that an action will not lie for negligence where the damages arise from mere sudden terror occasioning a nervous or mental shock, but unaccompanied by any physical injury, on the ground that injury to health in such circumstances cannot be considered as a natural consequence of the negligence. This decision was given where a woman, who had had a hair's-breadth escape from being run over by a train at a level crossing through the negligence of the defendant railway company's servant, had a miscarriage and otherwise suffered severely in her health as the result of her fright. It has, however, not always been followed, and in Ireland it has been apparently considered and disregarded by the Exchequer Division, as well as upon other occasions, and there is a recent judgment of Mr. Justice Wright in an English case in which the question of injury by terror was gone into upon slightly different facts. In this instance a man was held liable who had made a woman ill by giving her fictitious bad news of her husband by way of a "practical joke." Legal questions must always interest medical men in cases with regard to which medical evidence is of paramount importance so far as the facts are concerned. When once the principle is established from a legal point of view that injury to health may be the natural consequence of an act of negligence without any physical impact of anything injurious taking place the question of whether the injury was in fact due to the act alleged must in each case be one for medical evidence only. Mr. Justice Bigham's direction to the jury at Exeter is no doubt likely to come under review in London later. It will be seen that it involves a little more than previous judgments by establishing a distinction between the fright of the plaintiff on her own account and her fear for her children. The jury seem to have been equal to the occasion and to have decided questions upon which only a jury would be asked to adjudicate. They cannot have derived much assistance from medical witnesses in determining the exact proportion of the plaintiff's ill-health which was caused by her fear for herself as distinct from her fear for her children and in assessing the damages upon that basis.

The Drink Question.

Reference was made in THE LANCET of Feb. 7th at page 391 to the letter of a Great Yarmouth magistrate to the *Times* calling attention to the unusually large number of licensed houses in that town in proportion to the number of its inhabitants. In case any who read the note in question may have wondered how public-houses contrive to pay their way where they have so many competitors it will be instructive to quote from the *Western Morning News* of Feb. 7th some of the evidence given before the borough bench at Exeter in opposition to the renewal of the licence of a "hotel" there. The witness was a soldier recently returned from South Africa. He said that "he came home from the front on August 6th. On Coronation Day (August 9th) he received £5 from the depôt and went to the Blackamoor's Head, where he cashed the cheque and had a drink. He then went to the Albion and remained there from about 8.30 in the morning until 9 or 10 o'clock in the night and went home penniless. He must have thrown or given away a lot of his money. ..... About a fortnight afterwards he received £30 from the Government. It lasted about a week and most of it was spent at the Albion." In cross-examination he stated further that "since he had been home he had received as much as from £60 to £70 from the depôt. He had two months' sick furlough and was drunk nearly the whole of the time. He had never been summoned for drunkenness." He is perhaps an extreme instance, and the means put suddenly at his disposal were unusually large, but if men of the working-class, when enabled to do so, are ready to ruin themselves in health and pocket like this young fool upon "sick furlough," it cannot be a matter of surprise that a large amount of disease, want, and crime should be attributable to the abundant temptations put in the way of the weak and self-indulgent. It is also only to be expected that fresh applicants for licences should always be forthcoming wherever there is any population likely to supply them with customers.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9220 births and 5164 deaths were registered during the week ending Feb. 7th. The annual rate of mortality in these towns, which had been 17·5, 20·1, and 18·1 per 1000 in the three preceding weeks, further declined to 17·9 per 1000 last week. In London the death-rate was 17·6 per 1000, while it averaged 18·0 in the 75 other large towns. The lowest death-rates in these towns were 7·4 in Bournemouth, 8·0 in East Ham, 9·8 in York, 11·1 in Willesden, 11·3 in Hornsey, 11·9 in Grimsby, 12·0 in Devonport, 12·2 in Halifax, and 12·4 in Barrow-in-Furness; the highest rates were 22·3 in Bootle, 22·4 in Bury, 22·5 in Bradford, 23·0 in Newcastle-on-Tyne, 23·3 in Liverpool, 23·5 in Wigan, 24·2 in Preston, 24·8 in Tynemouth, and 31·3 in Hanley. The 5164 deaths in these towns last week included 512 which were referred to the principal infectious diseases, against 450, 539, and 493 in the three preceding weeks; of these 512 deaths 162 resulted from whooping-cough, 92 from measles, 88 from diphtheria, 70 from diarrhœa, 51 from scarlet fever, 35 from "fever" (principally enteric), and 14 from small-pox. No death from any of these diseases was registered last week in Portsmouth, Bournemouth, West Bromwich, Wallasey, Barrow-in-Furness, Halifax, York, or Stockton-on-Tees; while the highest death-rates from the principal infectious diseases were recorded in Tottenham, Great Yarmouth, Hanley, King's Norton, Wigan, Salford, Rotherham, Hull, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Wigan, Manchester, Salford, Newport (Mon.), and Merthyr Tydfil; from scarlet fever in St. Helens and Wigan; from diphtheria in Hanley, Coventry, and Salford; from whooping-cough in Croydon, Tottenham, Great Yarmouth, Hanley, Grimsby, Stockport, Preston, Rotherham, Tynemouth, and Merthyr-Tydfil; from "fever" in Rochdale; and from diarrhœa in Walsall. 14 deaths from small-pox were registered in the 76 towns last week, of which seven occurred in Liverpool and one each in Birmingham, Bootle, Bolton, Leeds, Sheffield, Rotherham, and Hull. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals, which had been five, four, and seven at the end of the three preceding weeks, had declined again to six at the end of last week; four new cases were admitted during the week, against two, none, and six in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday, Feb. 7th, was 1941, against numbers decreasing from 2528 to 2017 on the six preceding Saturdays; 189 new cases were admitted last week, against 192, 227, and 227 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 310, 411, and 355 in the three preceding weeks, further declined last week to 315, and were 93 below the corrected average number. The deaths in London directly attributed to influenza numbered 39 last week, against 34, 43, and 25 in the three preceding weeks. The causes of 60, or 1·2 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes

of death were duly certified in West Ham, Leicester, Manchester, Leeds, Newcastle-on-Tyne, and in 41 other smaller towns; the largest proportions of uncertified deaths were registered in West Bromwich, Birmingham, Liverpool, St. Helens, Bury, Sheffield, Stockton-on-Tees, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 23·4, 24·6, and 21·3 per 1000 in the three preceding weeks, rose again to 21·7 per 1000 during the week ending Feb. 7th, and was 3·8 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·9 in Perth and 18·2 in Dundee to 24·8 in Leith and 27·0 in Greenock. The 711 deaths in these towns included 28 which resulted from whooping-cough, 19 from diarrhœa, 16 from measles, seven from diphtheria, six from "fever," four from scarlet fever, and not one from small-pox. In all 80 deaths resulted from these principal infectious diseases last week, against 102 and 81 in the two preceding weeks. These 80 deaths were equal to an annual rate of 2·5 per 1000, which was 0·7 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 52 and 32 in the two preceding weeks, further declined last week to 28, of which 23 were registered in Glasgow, two in Dundee, and two in Leith. The deaths from diarrhœa, which had been 21 and 13 in the two preceding weeks, rose again to 19 last week, and included six in Glasgow, five in Dundee, three in Aberdeen, two in Edinburgh, and two in Greenock. The fatal cases of measles, which had been 11 and 20 in the two preceding weeks, declined again last week to 16, of which nine occurred in Aberdeen, three in Leith, two in Glasgow, and two in Edinburgh. The deaths from diphtheria, which had been six, five, and seven in the three preceding weeks, were again seven last week, and were all registered in Glasgow. The fatal cases of "fever," which had been eight and five in the two preceding weeks, rose again last week to six, of which five occurred in Glasgow. The deaths from scarlet fever, which had been five, five, and four in the three preceding weeks, were again four last week, and included three in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 183 and 173 in the two preceding weeks, further declined last week to 134, and were 39 below the number in the corresponding period of last year. The causes of 21, or nearly 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 30·0, 28·1, and 24·8 per 1000 in the three preceding weeks, rose again to 26·4 per 1000 during the week ending Feb. 7th. During the past four weeks the death-rate has averaged 27·3 per 1000, the rates during the same period being 18·4 in London and 18·9 in Edinburgh. The 192 deaths of persons belonging to Dublin were 12 in excess of the number in the preceding week, and included nine which were referred to the principal infectious diseases, against 10 in each of the two preceding weeks; of these, three resulted from diphtheria, three from whooping-cough, two from scarlet fever, one from diarrhœa, and not one from small-pox, from measles, or from "fever." These nine deaths were equal to an annual rate of 1·2 per 1000, the death-rates last week from the principal infectious diseases being 1·9 in London and 0·8 in Edinburgh. The deaths from diphtheria, which had been four, three, and one in the three preceding weeks, rose again last week to three. The fatal cases of whooping-cough also numbered three last week, none having been recorded in either of the two preceding weeks. The deaths from scarlet fever, which had been two and three in the two preceding weeks, declined again to two last week. Only one fatal case of diarrhœa occurred last week, against six in the preceding week. The 192 deaths in Dublin last week included 40 of children under one year of age and 58 of persons aged 60 years and upwards; these numbers were respectively 13 and six in excess of those recorded in the preceding week. Seven inquest cases and two deaths from violence were registered; and 67, or more than a third, of the deaths occurred in public institutions. The causes of 10, or more than 5 per cent., of the deaths in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING 1902.

Complete statistics relating to sickness and mortality during the year 1902 in the City of London and in each of the metropolitan boroughs are summarised in the accompanying table. The mortality figures relate to the deaths of persons actually belonging to the various metropolitan boroughs, and are the result of a complete system of distribution of deaths occurring in the institutions of London among the various boroughs in which the deceased persons had previously resided. With regard to the notified cases of infectious diseases in London during last year it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 9·9 per 1000 of the population, estimated at 4,579,110 in the middle of last year. In the three preceding years the rates had been 9·3, 7·7, and 8·9 per 1000 respectively. Among the various metropolitan boroughs the lowest rates were 5·3 in Kensington, 5·7 in Hampstead, 6·4 in Paddington and in Chelsea, 6·9 in the City of London, and 7·0 in Hammersmith; the highest rates were 11·3 in Holborn, 11·4 in Hackney and in Deptford, 12·0 in St. Pancras, 12·7 in Stepney, 13·0 in Southwark, and 13·4 in Bethnal Green. The prevalence of small-pox last year was greatly in excess of that recorded in any other recent year; the number of new cases notified during the year was 7798, against 29, 88, and 1702 in the three preceding years. This disease was proportionally most prevalent in Holborn, Shoreditch, Bethnal Green, Stepney, and Poplar. The number of small-pox patients admitted into the Metropolitan Asylums hospitals during last year was 8455, against 1788 in the preceding year; only 14 remained under treatment at the end of the year, against 666 at the end of 1901. The prevalence of scarlet fever during the year under notice showed a slight diminution as compared with the preceding year; the number of new cases notified being 18,258, against 18,094, 13,809, and 18,390 in the three preceding years. Among the various metropolitan boroughs scarlet fever was proportionally most prevalent in Southwark, Battersea, Camberwell, Deptford, Greenwich, and Lewisham. During last year 15,133 scarlet fever patients were admitted into the Metropolitan Asylums hospitals, against 13,641, 10,734, and 14,959 in the three preceding years; the number of cases remaining under treatment, which had been 2797, 2460, and 3080 at the end of the three preceding years, had declined again to 2327 at the end of last year. The prevalence of diphtheria during last year showed a marked decrease from that recorded in the preceding year, 10,735 new cases being notified, against 12,154 in 1901. The greatest proportional prevalence of this disease occurred in Fulham, St. Pancras, Hackney, the City of London, Wandsworth, and Lewisham. The Metropolitan Asylums hospitals contained 927 diphtheria patients at the end of last year, against 1343 and 1369 at the end of the two preceding years; the number of new cases admitted, which had been 8777 and 9090 in the two preceding years, declined again last year to 7988. Enteric fever showed a slightly increased prevalence last year, the number of cases notified being 3412, against 3195 in the preceding year; among the various metropolitan boroughs this disease was proportionally most prevalent in Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey. The number of enteric fever patients admitted into the Metropolitan Asylums hospitals during 1902 was 1806, against 1835, 2074, and 1480 in the three preceding years; 210 cases remained under treatment at the end of last year, against 406, 403, and 195 at the end of the three preceding years. Erysipelas was somewhat more prevalent last year than in the preceding year; the highest proportional prevalence of this disease was recorded in St. Marylebone, Hackney, Finsbury, Shoreditch, Bethnal Green, Stepney, and Southwark. The 312 cases of puerperal fever notified during the year showed an excess of 61 over the number recorded in 1901; of these 312 cases 22 belonged to Stepney, 21 to Wandsworth, 19 to Islington, 17 to Hackney, 17 to Lambeth, 15 to Kensington, 15 to Battersea, and 15 to Camberwell.

During the year under notice the deaths of 80,105 persons belonging to London were registered, equal to an annual rate of 17·2 per 1000, against 19·5, 18·6, and 17·1 per 1000 in the three years; the average rate in the 10 years 1892–1901 was 18·8 per 1000. In the various metropolitan

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1902.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1902.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,579,110	7798	18,258	10,735	4	3412	47	312	5534	1	46,101	9·9	1314	2360	560	1159	1876	—	537	4	2470	10,280	2·21	80,105	17·2	139
West Districts.																										
Paddington	145,107	113	364	222	—	83	1	14	148	—	945	6·4	20	83	9	33	23	—	13	—	75	226	1·74	2156	14·6	133
Kensington	177,605	99	378	186	—	83	4	15	189	—	964	5·3	11	93	21	19	21	—	19	—	81	265	1·49	2768	15·3	149
Hammersmith	114,210	100	353	182	—	51	1	7	118	—	812	7·0	13	77	7	23	27	—	11	—	64	222	1·90	1895	16·3	143
Fulham	143,102	94	553	429		74	—	7	124	—	1281	8·8	13	168	19	51	65	—	9	—	129	454	3·13	2488	17·1	148
Chelsea	74,018	39	204	133	—	35	—	7	60	—	478	6·4	7	67	8	13	14	—	6	—	40	155	2·06	1354	18·0	145
City of Westminster	180,800	232	475	286	—	133	1	6	144	—	1276	6·9	39	42	15	29	34	—	20	1	54	234	1·28	2953	16·1	136
North Districts.																										
St. Marylebone	132,145	154	414	237	—	96	—	14	219	—	1134	8·4	24	97	14	27	23		15	—	67	267	1·98	2455	18·3	107
Hampstead	83,743	20	255	98	—	46	1	7	57	—	484	5·7	3	15	7	10	10	—	11	—	12	68	0·81	960	10·8	87
St. Pancras	236,521	360	1219	836	—	197	2	12	258	—	2884	12·0	81	113	49	107	113	—	44	—	83	590	2·46	4450	18·6	147
Islington	337,270	302	1380	881	—	263	5	19	364	—	3214	9·4	54	116	40	104	156	—	46	—	98	614	1·80	5634	16·4	133
Stoke Newington	51,700	51	202	99	—	22	—	1	52	—	427	8·1	8	5	5	6	14	—	4	1	18	61	1·17	702	13·4	115
Hackney	221,926	425	883	721	—	184	6	17	329	—	2565	11·4	70	78	15	61	92	—	31	—	96	443	1·98	3378	15·0	119
Central Districts.																										
Holborn	58,535	219	203	117	—	40	—	7	85	—	671	11·3	46	30	8	10	27	—	6	—	19	146	2·44	1266	21·3	129
Finsbury	100,487	211	392	240	—	83	6	7	155	—	1094	10·7	36	83	15	38	75	—	9	—	69	325	3·18	2334	22·9	154
City of London	25,598	39	83	97	—	15	1	—	32	—	267	10·3	7	10	1	10	4	—	2	—	2	36	1·38	530	20·4	126
East Districts.																										
Shoreditch	118,004	442	250	233	—	150	4	9	175	—	1263	10·5	76	88	8	25	76	—	22		130	425	3·53	2488	20·7	174
Bethnal Green	129,865	516	529	324		132	—	10	256	—	1766	13·4	64	59	19	33	89	—	14	—	61	329	2·68	2747	20·8	155
Stepney	300,551	1387	1070	780	1	297	—	22	447	-	4004	13·1	260	164	30	85	199	—	34	-	237	1009	3·31	6285	20·6	147
Poplar	169,214	630	670	469	—	210	—	10	191	-	2180	12·7	93	69	21	57	99	—	27	-	110	476	2·77	3326	19·3	154
South Districts.																										
Southwark	206,825	518	1098	539	—	193	—	10	372	-	2730	13·0	78	164	42	63	114	-	23	-	169	663	3·10	4495	21·4	166
Bermondsey	130,218	224	506	283	1	130	1	6	190	-	1341	10·1	31	155	18	30	69	—	13	—	89	405	3·06	2753	20·8	155
Lambeth	306,102	362	1357	490	—	219	11	17	337	1	2794	9·0	60	83	48	53	118	-	38	1	180	581	1·86	5384	17·4	127
Battersea	171,401	189	893	294	—	96	-	15	200	-	1687	9·7	27	101	24	18	63	-	16	—	97	346	1·98	2618	15·0	127
Wandsworth	241,810	131	1079	758	1	145	1	21	243	-	2379	9·7	25	97	23	67	64	—	29	—	97	402	1·62	3306	13·5	127
Camberwell	282,775	356	1390	693	1	146	—	15	309	-	2910	10·9	63	121	41	84	110	-	31		146	596	2·23	4345	16·3	138
Deptford	111,577	145	649	268	—	76	—	6	150	—	1294	11·4	33	74	19	20	41	—	13	1	76	277	2·44	1873	16·5	138
Greenwich	98,013	102	463	183	—	68	—	6	122	-	944	9·5	22	41	6	15	20	—	9	—	46	159	1·59	1532	15·4	138
Lewisham	132,432	88	664	401	—	60	1	14	112	—	1340	10·0	12	27	19	45	65	—	9	—	64	241	1·79	1833	13·6	125
Woolwich...	119,556	236	278	252	—	61	1	11	97	—	936	7·7	38	40	9	23	51	—	13	—	61	235	1·93	1837	15·1	125
Port of London	—	14	4	5	—	24	—	—	—	—	47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

boroughs the lowest death-rates last year were 10·8 in Hampstead, 13·4 in Stoke Newington, 13·5 in Wandsworth, 13·6 in Lewisham, 14·6 in Paddington, and 15·0 in Hackney and in Battersea; and the highest rates were 20·6 in Stepney, 20·7 in Shoreditch, 20·8 in Bethnal Green and in Bermondsey, 21·3 in Holborn, 21·4 in Southwark, and 22·9 in Finsbury. Taking the five groups of boroughs the rates of mortality were 16·0 in the West, 16·2 in the North, 16·6 in the South, 20·4 in the East, and 22·0 in the Central. To the principal infectious diseases 10,280 deaths were referred during the year; of these, 1314 resulted from small-pox, 2360 from measles, 560 from scarlet fever, 1159 from diphtheria, 1876 from whooping-cough, 537 from enteric fever, four from simple continued fever, and 2470 from diarrhœa, but not one from typhus fever. These 10,280 deaths were equal to an annual rate of 2·21 per 1000, against 2·49, 2·23, and 2·22 in the three preceding years. Among the various metropolitan boroughs the death-rates from these principal infectious diseases ranged from 0·81 in Hampstead, 1·17 in Stoke Newington, 1·28 in the City of Westminster, 1·38 in the City of London, 1·49 in Kensington, and 1·59 in Greenwich, to 3·06 in Bermondsey, 3·10 in Southwark, 3·13 in Fulham, 3·18 in Finsbury, 3·31 in Stepney, and 3·53 in Shoreditch. The 1314 fatal cases of small-pox exceeded the average by 1250; of these 1314 deaths 734 were registered during the first quarter of the year and 507 during the second quarter; among the various metropolitan boroughs the greatest proportional mortality from this disease occurred in Holborn, Shoreditch, Bethnal Green, Stepney, and Poplar. The 2360 deaths referred to measles were 366 below the average number in the 10 preceding years; this disease was proportionally most fatal in Fulham, Chelsea, Finsbury, Shoreditch, Southwark, and Bermondsey. The 560 fatal cases of scarlet fever were 300 below the corrected decennial average; the highest rates from this disease were recorded in St. Pancras, Finsbury, Southwark, Lambeth, Camberwell, and Deptford. The 1159 deaths from diphtheria were only slightly more than half the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Fulham, St. Pancras, Finsbury, the City of London, Poplar, and Lewisham. The 1876 fatal cases of whooping-cough showed a decline of 285 from the average number in the ten preceding years; the greatest proportional mortality from this disease occurred in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, and Southwark. The 541 deaths referred to "fever" were considerably below the corrected average number; among the various metropolitan boroughs the highest "fever" death-rates were recorded in Hampstead, St. Pancras, Islington, Hackney, Shoreditch, and Poplar. The 2470 fatal cases of diarrhœa were 1220 below the average number; this disease was proportionally most fatal in Fulham, Finsbury, Shoreditch, Stepney, Southwark, Bermondsey, and Deptford. In conclusion it may be stated that the mortality in London last year from these principal infectious diseases in the aggregate was 17·0 per cent. below the average.

Infant mortality in London last year, measured by the proportion of deaths among children under one year of age to registered births, was equal to 139 per 1000, against 166, 158, and 148 per 1000 in the three preceding years. The rates of infant mortality in the various metropolitan boroughs ranged from 87 in Hampstead, 107 in St. Marylebone, 115 in Stoke Newington, 119 in Hackney, and 125 in Limehouse and in Woolwich, to 154 in Finsbury and in Poplar, 155 in Bethnal Green and in Bermondsey, 166 in Southwark, and 174 in Shoreditch.

THE SERVICES.

THE NON-COMMISSIONED OFFICERS AND MEN OF THE ROYAL ARMY MEDICAL CORPS.

A COMPREHENSIVE scheme of reorganisation aiming at a differentiation of the duties of non-commissioned officers and men of the Royal Army Medical Corps has been under consideration at the War Office. It has been decided to recommend that the non-commissioned officers and men of the corps should be divided into four distinct sections: (1) the nursing section, (2) the cooking section, (3) the clerical section, and (4) the general duty section. Special attention has been paid to the training of men for the nursing section, who will in future be employed in nursing duties only. A very complete scheme for nursing instruction is being drawn up and every effort is being made to develop this section. Her Majesty Queen Alexandra has signified her wish that the most proficient and best conducted male nurses should be admitted to her nursing service and a scheme for carrying out this object, including extra remuneration to such selected non-commissioned officers and men and the granting of a special badge to denote the distinction that has been conferred upon them, is under consideration. To the general duty section will be allotted those duties in hospitals only indirectly connected with the care of the sick. Advancement to a higher grade of orderly and promotion (except to a limited extent in the clerical and cooking sections) can only be obtained through the nursing section. Revised rates of pay are under consideration with the view of making the nursing section the most important and attractive. It is believed that the employment of specially selected men in nursing only with adequate remuneration will attract to the corps the best class of men, while the admirable courses of instruction for which officers commanding hospitals and matrons are responsible should enable men to qualify themselves for posts in civil life on retirement.

ROYAL ARMY MEDICAL CORPS.

Captain C. B. Lawson proceeds to Woolwich for duty as Clinical Pathologist at the Herbert Hospital on expiration of his appointment at Charing Cross Hospital. Lieutenant-Colonel A. F. Franklin is nominated for service in the Bengal Command, vice Major Forrester, tour expired. Major W. T. Swan has joined at Portsmouth for duty.

The undermentioned Captains to be Majors (dated Jan. 31st, 1903):—E. E. Powell, J. W. Jennings, D.S.O., E. McK. Williams, J. C. Connor, F. W. Hardy, W. A. Graham, D. D. Shanahan (Brevet Major), C. W. H. Whitestone, A. Pearse, and C. Dalton.

Captain H. N. Dunn, from the Seconded List, to be Captain. Dated Jan. 17th, 1903.

Lieutenant M. G. Sterling is seconded for service with the Egyptian Army. Dated Jan. 17th, 1903.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Durham (Seaham): Surgeon-Captain L. G. Dillon to be Surgeon-Major. Dated Feb. 7th, 1903.

Submarine Miners: The Fourth Division: Surgeon-Captain H. Hay to be Surgeon-Major. Dated Feb. 7th, 1903.

Rifle: 1st Volunteer Battalion the Royal Scots Fusiliers: Surgeon-Major W. Sneddon to be Surgeon-Lieutenant-Colonel. Dated Feb. 7th, 1903. 3rd (Cumberland) Volunteer Battalion the Border Regiment: Surgeon-Lieutenant T. G. Mathews resigns his commission. Dated Feb. 7th, 1903. 1st Volunteer Battalion the Hampshire Regiment: The undermentioned officer resigns his commission: Surgeon-Lieutenant W. B. Colquhoun. Dated Feb. 7th, 1903. 3rd Volunteer Battalion the Essex Regiment: Surgeon-Lieutenant H. N. A. Taylor to be Surgeon-Captain. Dated Feb. 7th, 1903.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The London Companies: Supernumerary Lieutenant E. W. Herrington to be Captain. Dated Jan. 27th, 1902.

VOLUNTEER OFFICERS' DECORATION.

The King has conferred the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force who have been duly recommended for the decoration under the terms of the Royal Warrant dated July 25th, 1892:—*Home District: Rifle:* 1st Middlesex (Victoria and St. George's) Volunteer Rifle Corps: Surgeon-Lieutenant-Colonel Frederick Enos Fenton. 7th Middlesex (London Scottish) Volunteer Rifle Corps: Surgeon-Captain James Cantlie. *North-Eastern District: Rifle:* 2nd Volunteer Battalion the East Yorkshire Regiment: Surgeon-Major Alexander Ferrier Angus Fairweather, retired. *North-Western District: Rifle:* 6th Volunteer Battalion the Manchester Regiment: Surgeon-Lieutenant-Colonel Robert Lancelot Sparrow. *Scottish District: Rifle:* 6th (Fifeshire) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Major Charles Edward Douglas.

THE DUKE OF YORK'S ROYAL MILITARY SCHOOL.

The *Army and Navy Gazette* of to-day (Feb. 14th) calls attention to "a remarkably anomalous condition of things" noticed in scanning the "Army List." Our contemporary

has discovered that although among the *ex-officio* members of the Commissioners of the Royal Hospital, Chelsea, a military medical member—viz., the Director-General of the Army Medical Service—finds a place, yet among the *ex-officio* members of the Commissioners of the Duke of York's Royal Military School no military medical member has been appointed. The *Army and Navy Gazette* goes on to say: "Surely one is quite as necessary in the latter institution as in the former. This will have to be remedied without delay; and we understand that a question on the subject will arise when Parliament assembles. If the Chaplain-General and Judge-Advocate-General take places as *ex-officio* members of the Duke of York's School, surely a military medical member of rank and experience should be appointed for the sanitation of the institution, and matters connected with the health of the boys must come up now and again for consideration. It is now well known that the sanitary condition of the Duke of York's School has been recently investigated, and it is not unlikely that the Secretary of State for War is by this time in possession of the report thereon, the particulars of which will be called for on the reassembly of Parliament. We invite the attention of the medical journals to the foregoing comments, and would like to know their views." Our views coincide with those of the *Army and Navy Gazette* that the Commissioners of the Duke of York's Royal Military School should include among them a medical officer of experience and rank.

SIR FREDERICK TREVES AND THE SOUTH AFRICAN WAR COMMISSION.

The Royal Commission on the South African War resumed its sittings on Feb. 4th. Evidence was given by Sir Frederick Treves, who served with Sir Redvers Buller's army in Natal down to the relief of Ladysmith. Sir Frederick Treves expressed his views as to the over-organisation of the Army Medical Service at the date of the war, the need of decentralisation, and of giving to the individual officer more freedom of action and emancipation from merely clerical work. He gave evidence as to the inadequacy or unsuitability of much of the stores, instruments, and ambulances at the date of the war, as to the training of army medical officers, and as to military hospitals generally. He also gave explanations as to the recent action of the Medical Advisory Board at the War Office and the steps which have been taken since the war, or are now in contemplation, to reform the defects in the Army Medical Service.

The prizes gained by the members of the London Companies Royal Army Medical Corps (Volunteers) will be distributed on Feb. 21st by Major-General L. J. Oliphant, C.B., C.V.O., at the headquarters, 51, Calthorpe-street, London, W.C. The distribution will be followed by a dance.

Correspondence.

"Audi alteram partem."

NATIONAL HEALTH AND PHYSICAL EDUCATION.

To the Editors of THE LANCET.

SIRS,—The Scottish poet Burns has given expression to a most excellent prayer, and one suited to almost everybody, in the lines:

> "Oh, that the Guid the gift wad gie us
> To see ourscls as others see us."

The fact that a large proportion of our urban population is unfit for military service has, I believe, been fully known to, and carefully considered by, our German friends for a considerable time while we have been more or less blind to it and have certainly not given to it the consideration it deserves.

It seems to me that Sir Frederick Maurice by his writings and speeches, and you by your leading article in THE LANCET of Jan. 31st, p. 315, have done public service by drawing attention to the fact. It is, indeed, staggering to learn that out of every five would-be soldiers only two are found to be fit for service after two years. It is probable that, as you say in your article, this condition is not that of the population at large but only of a certain section of it. The fact that the record is constantly being broken for all sorts of feats of strength, agility, and endurance, such as lifting weights, high and long jumps, foot races, scores at cricket, bicycle rides, and swimming, indicates that the physique of the well-to-do classes is improving rather than deteriorating. But, on the other hand, the existence of a large section of the community, and that, too, the one which is most readily available for recruiting, having such a poor physique that only two out of every five are fit for military service is, as you most truly say in your leading article, an appalling fact. Nor is the condition a serious one only because it prevents us from getting the number of soldiers we need when an emergency arises, it is serious also from the civil standpoint, for if these men are unfit for military service what are they good for? Poor in physique as they all are, and poor in mental capacity and power of application as you suggest many of them are, What becomes of them? Many of them probably marry girls as weak as themselves and have children, some of whom go to swell the lists of infant mortality, some to join the criminal classes, while others grow up more weak and incompetent than their parents. It is probable that for the existence of this class the medical profession is to a considerable extent responsible. For by its increased knowledge and more energetic application of medicine and hygiene children are now reared who, under less favourable conditions, would have died in infancy. The harm which it has thus done the medical profession must now strive to undo by doing its best to secure that children shall not merely grow up, but shall be sufficiently strong and healthy to fit them for the battle of life. How this is to be done is a problem by no means easy to solve; in search for a solution, as Sir Frederick Maurice truly says, one makes many mistakes and has often to change one's impressions, and therefore it is with the utmost diffidence and merely in a tentative way that I should like to mention some ideas which have occurred to me in regard to it. First of all, we want information as to (1) the causes of physical deficiency; (2) the best means of remedying the defects; and (3) the best means at present available in case that the best means possible cannot as yet be applied.

Information having been obtained on these points the next thing is its practical application. It is obvious that such tasks could only be undertaken by the Government and they ought properly to be undertaken by a board of health if such a board existed. In the absence of this much-needed board I suppose the best means of obtaining information would be the appointment of a small commission, regarding the composition of which the Royal Colleges of Physicians and Surgeons might fitly be consulted. As you truly say in your leading article: "No purpose can be served by attempting to answer a question of such a size as, What are the methods by which our national health can be improved?" But the scope of the inquiry might be limited to the three chief points insisted upon by Sir Frederick Maurice—namely, deficient teeth, flat-feet, and generally weak physique. The commission might ascertain to what extent decayed teeth are present at different ages among the children attending the Board schools throughout the kingdom. They might try to ascertain also how far the presence of decayed teeth coincides with the absence of phosphate of lime and silica in the food. If these substances be absent or deficient we can no more expect a child to have strong teeth than we can expect a hen to lay eggs with well-formed shells when it is not supplied with lime in its food. The perfection of modern mills and the consequent separation of the outer part of the wheat and the mineral matter it contains from the starchy matter which goes to form white bread is probably responsible to some extent for decayed teeth. Secondly, the occurrence of flat-foot at different ages should form part of the inquiry and along with this might go an examination of the development in the calves of the child's legs. Thirdly, they might seek to find out how far early marriages are due to youths and girls having nothing to do after their hours of labour are over excepting to walk about with one another, and if this be a cause how far its action might be prevented by providing such occupations and amusements as would not only fill up their leisure time but tend to develop them physically, mentally, and morally.

Until such information is obtained it is impossible to speak with certainty as to the best means of removing the physical deficiencies to which Sir Frederick Maurice has drawn attention. It seems to me probable, however, that though decay in teeth, like other nutritive phenomena, depends upon the condition of the body as a whole, especially of the

nervous system, yet it may be greatly influenced by diet and cleanliness.

Of diet I have already spoken, but attention to cleanliness of the teeth is also of great importance. Caries is often started by acids formed by the decomposition of particles of food lying between the teeth. When the teeth are healthy and strong they may defy the attacks of such acids, but where they are weak they undergo erosion and begin to decay. During the day the teeth are kept more or less clean through being washed by the alkaline saliva and rubbed by the tongue, but during the night particles of food may lie between them for many hours and decompose. The bad effects of this might be greatly lessened by children systematically cleaning their teeth, especially at night. The expense of tooth-brushes renders their employment out of the question by the poorer classes, but all that is required is a lucifer match which has already been used. One end of this is cut into a wedge shape and passed between the teeth, so as to press out any particles of food that may be lodging between them. It should also be drawn round the base of each tooth close to the gum so as to remove any adhering tartar. The expense of such treatment is *nil*, the trouble is very small, and the gain from it would be very considerable.

For flat-feet balancing exercises on the toes might be regularly given to school children, but they ought to form only a part of general physical training which should be as compulsory for every child as learning the "three R's." If, as I believe, early marriages are partly due to want of suitable occupation and amusement in leisure hours, this might partly be avoided as far as men are concerned by developing their interest in volunteering through regular training at school in the use of a rifle between the ages of seven and 14 years. Their interest might be kept up by rifle and pistol saloons in which they could learn to aim with precision both at stationary and moving objects. The success that has been obtained by Colonel Fox in the development of young recruits by physical exercises shows how extraordinary the benefit is which youths derive from such exercises, and if they were systematically employed in schools many of the recruits who are now rejected would probably be well over the mark of efficiency, while their training in the use of the rifle would enable them to learn all the necessary drill much more quickly than at present and leave them with more spare time during their service. In regard to the employment of their spare time we might, I think, with advantage take a lesson from the Russian army, and upon this point Mr. Francis H. E Palmer makes some remarks which are so apposite that, with your permission, I should like to quote them entire: "Military training has naturally produced the most striking results among the lower classes as it has served to develop the very faculties in which the peasantry are most deficient. The recruit drawn from the easy-going life of the village, where he seems incapable of doing anything except as a member of his artel, is suddenly transported into a new world in which many moral qualities that have hitherto lain dormant are called into play. Strict obedience is already a part of his very nature, but the necessity for order, exactitude, punctuality, and alertness is impressed upon him at every moment. A Russian peasant or workman upon the completion of his military service can nearly always command from 25 to 50 per cent. higher wages than those who have not had this advantage. It is not in moral training alone, however, that the lower classes have benefited by military service. Only a very small part of the multifarious requirements of the Russian army and navy could hitherto be supplied by private industry, and the Government has been compelled to convert itself into a colossal manufacturer and universal provider. Private industry has been fostered, it is true, whenever possible, but nevertheless the Government has been compelled in almost every branch to take the initiative from the weaving of cloth for the soldiers' uniforms to the making of common or scientific instruments. In the army almost every trade is carried on and rarely does a recruit return home when his military service is over without having gained some technical knowledge that greatly increases the value of his labour."[1]

If the army were thus converted into a huge technical school and manufactory, in which all the uniforms, shoes, saddlery, &c., were made, the expense of maintaining the army would be so much lessened that we might hope for a marked diminution in taxation, whilst the men trained in it after their return to civil life would be able to support their wives and families instead of becoming a burden on the ratepayers.

I am, Sirs, yours faithfully,

Feb. 10th, 1903. LAUDER BRUNTON.

[1] Russian Life in Town and Country. By Francis H. E. Palmer. London: George Newnes, Limited, 1901, p. 260.

THE RISE OF BLOOD PRESSURE IN LATER LIFE.

To the Editors of THE LANCET.

SIRS,—The arguments on the subject of my paper on arterial pressure[1] in elderly persons come, to my honour, from correspondents so eminent that I must ask you again to publish a brief reply.

Sir William Broadbent's argument is, I think, that there is increased peripheral resistance, the area of which he places in the "capillaries," but that "it need not be viscosity in a physical sense" (I do not perceive any alternative sense?). This proposition is true, no doubt; in the healthy circulation the pressure in the capillaries is higher than the mean pressure of the system as a whole. Sir William Broadbent proceeds to discuss the phenomena of capillarity, which is treacherous ground to enter upon, as capillary phenomena are modes of surface tension and apply to open (air-containing) tubes standing in solutions having a free surface and under the uniform pressure of the atmosphere only. The capillary vessels of the body contain no free air, while, on the other hand, the contents are under a mean pressure above that of the atmosphere. If we turn away from surface tensions and consider only the phenomena of adhesion of surfaces, as, for example, the wetting of the surface of a slip of glass dipped into water, which glass when dipped into mercury had not been wetted—keeping to these simpler, and I think more apt, of the phenomena quoted I would point out that if the blood wet the wall of the capillary the wetting layer ceases to move, while the rest of the blood flows on; thus, practically speaking, no energy is lost. If, however, the blood be so altered as not to wet the wall (as the mercury did not wet the glass slip) the outermost layer or cylinder of blood remains no longer stationary; it is forced along with the rest, and friction against the wall, with loss of energy, ensues. There may be, as Sir William Broadbent suggests, some change of this kind; the blood may lose some adhesion to the capillary wall; but such a supposition is highly speculative and to me the speculation seems an unlikely one. Again, projections from the walls, such as would set up contrary currents or "eddies," would obviously imply loss of energy; but such knotty places belong rather to arteries than to capillaries. Now let us suppose, what I think to be more probable, that the outermost cylinder of blood in the tube always wets the wall, and, so wetting it, remains stationary—changing, that is, by molecular processes only. Then, as in the normal state, this layer may be disregarded—and we shall regard the axial stream and the layers nearer and nearer to the still envelope. Of these cylinders within cylinders—for so we may reason of the blood stream—we know that the more axial travel the more rapidly; or, conversely, that the outer layers travel more and more slowly in the degree of their remoteness from the central or axial current. At no two points of a radius of a transverse section is the rate the same; it falls as we move from centre to circumference. Yet how can such differential rates be possible? By continuous deformation of the blood stream; by the shearing force of the more inward cylinders as they slip past the more outward. In the great retardation due to this internal friction of the several layers of blood one upon another a large part of that energy is lost which is continually replaced by the pressure-head (the left ventricle). The loss amounts to at least 100 mm. of Hg per second. Were the vessels filled with water this internal friction would be less; if with alcohol less still; but not even alcohol is free from "viscosity." If the vessels contained treacle the shearing frictions would be so great as quickly to raise the friction coefficient to an equality with the maximum pressure within the left ventricle, when, of course, the circulation would stop. I did not pretend to have proved that in senile hyperpiesis the viscosity of the blood is increased; I suggested, and suggest still, that as in healthy capillaries the viscosity of the blood is the main factor in

[1] The full text of this paper, which was read before the Royal Medical and Chirurgical Society on Jan. 13th, will appear in our columns shortly.

peripheral resistance, we should try first to estimate the variations of this factor which we know rather than to assume the intervention of a new and unknown factor. At any rate, let us try to establish a standard of blood viscosity; as yet we have made no attempt to find even a method for its estimation. But since my paper was read my colleague, Dr. Graham Smith, has suggested such a method to me, of which, if it prove to be valid, we shall hear more hereafter.

Sir William Broadbent argues with Sir Douglas Powell that this alteration of the blood—namely, that it wets the wall less—is due to admixture of impurities, the products of imperfect metabolism. I must repeat that this seems to me at present to be sheltering under a phrase. For my part I also have hinted at this line of research; so have Dr. Haig and others. But who will try the experiments? Does blood into which, let us say, purin bodies have been introduced wet membranes less than normal blood, as Sir William Broadbent suggests? Or, again, is it of higher viscosity, as I suggest? And if the latter be the case, has the former factor any existence at all?

For the rest of Sir William Broadbent's letter I am especially grateful. The views which he so powerfully supports I brought before the Hunterian Society in equivalent terms a few years ago but was little heeded. The German schools continued to hold, with von Basch and the rest, that senile hyperpiesis is due to arterio-sclerosis; and if at the outset arterio-sclerosis be not discoverable, then to latent arterio-sclerosis; the French school continued to assert that in these changes should be recognised not only a primary arterio-sclerosis but also a primary cardio-arterio-sclerosis—a wear-out all round—whereas in my opinion the heart in uncomplicated cases, so far from being a skulker or a cripple, dies in the trenches. The English school meanwhile has spent most of its time in disputing whether the middle coat of a thickening arteriole is primarily hypertrophied or degenerated and has not settled the point yet. I believe—and this is a contribution to Dr. Russell's point of view—that the muscular coat of the artery increases, but as that of the heart increases, under abnormally high mean tensile stress; and that as in the heart, so in the artery, the hypertrophy is somewhat fugitive and tends to early decay. Dr. Russell seems, if I read him aright, still to maintain that arterial spasm comes first and raises the mean arterial pressure, an opinion which from the beginning I have contested; that if universal it would have this effect is true, but so long as compensatory mechanisms are intact it never is universal, nor nearly so. However, I must skip the rest of Dr. Russell's letter, which I read with sore discouragement. One narrow purpose I thought by long and ascetic discipline in letters to have attained—namely, the negative virtues of austerity, order, and precision; that, whatever my stuff, my style should be concise, lucid, and definite. And, after lifelong lopping, stripping, and drilling, Dr. Russell tells me that by "literary garnish my style is unintelligible to the ordinary mind." Garnish! which I detest in all the arts. How hard life is! Other critics have said, and said it in print too, that I had become too condensed and allusive, presupposing in the reader knowledge which he does not always possess.

> "O glücklich! wer noch hoffen kann
> Aus diesem Meer des Irrtums aufzutauchen,
> Was man nicht weiss, das eben braucht man,
> Und was man weiss, kann man nicht brauchen."

I am, Sirs, yours faithfully,

Cambridge, Feb. 9th, 1903. T. CLIFFORD ALLBUTT.

To the Editors of THE LANCET.

SIRS,—While feeling some timidity in entering the lists with the distinguished disputants who have recently addressed letters to THE LANCET on the above subject I am tempted with your permission to do so, both on account of its importance to the physician and of the interest I have long taken in it. The fact that there is so little unanimity in regard to so comparatively simple a point as the mechanism of protracted high pressure in the systemic arteries, shows at once the difficulties surrounding the science of medicine and how much, how very much, we have yet to learn.

The chief points at issue in regard to these cases of protracted high pressure would appear to have reference to—(1) the situation of the morbid resistance, whether, e.g., it is located chiefly in the arteries or capillaries; and (2) the nature of the resistance, how far, e.g., it is attributable to active vascular contraction, and how far to augmented frictionality (if I may be allowed the term) of the blood. Sir William H. Broadbent holds that it "has its primary seat in the capillaries" and that it is due to an alteration in the blood which so influences the vital reaction between that fluid and the capillaries as to interfere with the normal easy flow through these vessels—he assumes, as it were, an increased vital frictionality. Professor T. Clifford Allbutt attributes the essential cause of the morbid resistance to an increased viscosity of the blood by virtue of which (presumably) its mechanical (as distinguished from vital) frictionality is increased, while he is not disposed to assign to active vascular narrowing any influence in effecting a long-sustained high pressure. Finally, Sir R. Douglas Powell and Dr. William Russell place the chief resistance in the arteries and attribute it to a generalised hypertonus of them.

We shall, I think, be helped to a decision on these questions by first considering (1) the situation of the chief vascular resistance under strictly physiological conditions; and (2) how this resistance is modified physiologically. 1. It is now some years since you were good enough to publish in THE LANCET a communication from me in which I pointed out that, contrary to the opinion then prevailing, the resistance in the capillaries is normally so small as to be practically negligible. This conclusion is now, I believe, generally accepted among physiologists. It is also generally recognised by them that the large and moderate-sized arteries offer very little resistance to the current, and that the chief vascular resistance—say five-sixths of the total amount—is located in the arterioles. 2. It is equally certain that physiological modifications of vascular resistance are almost wholly due to active alterations in the calibre of these same arterioles, modifications in the frictionality (vital or mechanical) of the blood playing but an infinitesimal part. Were the blood as thin and mobile as spirit, a widespread arteriolar spasm would yet be adequate to augment resistance to the furthermost limit, and to cause a corresponding augmentation in arterial blood pressure; and, on the other hand, even were the blood of semi-tarry consistence it would still, given a widespread arteriolar dilatation, rush with an all too fatal facility into the veins, causing the arterial blood pressure to sink to a few mm. Hg. It cannot, indeed, too emphatically be insisted upon that, normally at all events, vascular resistance is essentially arteriolar resistance, one which is placed in a certain part of the systemic circuit for a special physiological purpose, and that the most complex and colossal vascular system—as of the whale, e.g.—offers in the absence of this arteriolar resistance but a feeble obstacle to the onflow of blood. Further, that the degree of systemic arterial blood pressure is essentially dependent upon the degree of arteriolar resistance: a widespread and pronounced arteriolar dilatation lowers arterial blood pressure to a few mm. Hg let the heart beat never so vigorously, while the opposite condition leads, except in cases of extreme cardiac failure, to supernormal pressure. I say *except in extreme cardiac weakness*, for although it is true, as Dr. Russell contends, that general arterial hypertonus does not necessarily go along with augmented pressure, yet in my experience the pressure is only low in cases of hypertonus when the heart has come to the very end of its tether; provided only peripheral resistance is high we shall often find arterial pressure ruling high even in cases of considerable cardiac weakness, as may frequently be observed in the last stages of granular kidney when the failure of the heart has reached the stage of pulmonary engorgement and general anasarca.

Seeing, then, that the normal vascular resistance is mainly situated in the arterioles and how overwhelming is the part played by arteriolar contraction and dilatation in modifying resistance physiologically, one is naturally led to ask whether it is needful to seek elsewhere for protracted morbid resistance, or for any other mechanism in explanation of it? In other words, cannot we satisfactorily account for these cases on the supposition that there is a widespread arteriolar contraction? The more so if it can be shown that such an arrangement makes for a good end, as I believe it does. It is admitted by all that the primary cause of persistent high blood pressure is a toxæmia, and what, I submit, happens is this: in response to the action of the poisoned blood all (or most) of the systemic arterioles contract, save those within the kidneys which dilate, the effect being greatly to increase the flow and pressure of blood within the kidneys, and thus to favour the elimination of the poisons by these latter. This view which I have already set forth in the pages of THE LANCET[1] is strengthened by the remarkable observations

[1] THE LANCET, June 8th, 1901, p. 1627.

of Dr. Russell to the effect that in what he calls arterial hypertonus the muscular coat of all (or most) of the systemic arteries is hypertrophied, *while that of the intrarenal arteries tends to be atrophied.* Let us not lose sight of the physiological aspects of disease. Are we to regard the heightened blood pressure in the cases we are considering as an instance of mere blundering on the part of the organism? Are we to suppose that the organism would permit the maintenance through long years of a morbidly high vascular resistance which by the strain it puts on the heart and arteries inevitably leads to their undoing—are we, I say, to suppose all this when in the twinkling of an eye that resistance could, by the opening of the arteriolar flood-gates, be effectually lowered, even to the point, if need be, of inducing collapse? That seems to me an unwarrantable assumption. The animal organism possesses elaborate means of coping with its maladies and in so doing displays an infinitely greater wisdom than the wisest physician can ever hope to attain to. Bearing this fact in mind, can we doubt, if a low arterial pressure would advantage the organism in the cases in question, that the organism would very soon bring it about, seeing that the means of doing so are ready to hand? We must conclude, therefore, that the high blood pressure in these cases plays a useful part. The view advanced by Sir George Johnson and adopted by some, that the arteries contract for the purpose of protecting the tissues from their poisoned contents, credits the organism with a shortsightedness which I am loth to attribute to it. Such a course could only defeat its own ends by diminishing the circulation through the kidneys as well as through other parts, and thus actually diminishing the elimination of the poisons apart from wearing out the heart and arteries.

Professor Allbutt doubts whether vascular spasm is capable of maintaining a protracted increase of resistance, though he admits the indefatigability of the arteries; indeed, the average condition of the arterioles throughout life is one of spasm; temporary local relaxations occur, it is true, but taking the arterioles at large their active contraction at any one moment is considerable, for otherwise death would inevitably occur from bleeding into the veins. The life of the organism is, in fact, as much dependent upon the tonic contraction of the arterioles as upon the rhythmic contraction of the heart. And if these vessels are capable of so much, why, I would ask, should they not be capable of a little more? and it needs, be it observed, but a moderate increase in their normal contraction to cause a substantial augmentation in resistance. Have we not, moreover, both clinical and anatomical evidence of the existence of sustained arterial hypertonus, clinical in those cases of "tightly contracted vessels" to which Professor Allbutt himself refers, and anatomical, in the cases of hypertrophied media, observed by Dr. T. D. Savill, Dr. Russell, and others?

The fact that normally the resistance in the capillaries is infinitesimal appears to me to tell against the view that they constitute the chief resistance in cases of high blood pressure. I cannot think any altered condition of the blood could, without destroying life right out, so increase the friction between the blood and the capillaries as to change a capillary resistance of from 1 or 2 Hg mm. to one of say 50 or 60 Hg mm. or more—that is to say, by from 20 to 30 times its normal amount. If, on the other hand, we assume the morbid resistance to reside essentially in the arterioles which normally offer a resistance of, say, 70 Hg mm., we have but to postulate an increase in this resistance by a fraction of its normal amount in order to get a very substantial increase. Again, would not a resistance of from 50 or 60 Hg mm. in the capillaries render the occurrence of shock impossible by preventing the sudden rush of blood into the splanchnic veins upon dilatation of the corresponding arteries? And is there any evidence that patients with protracted high arterial blood pressure are proof against shock? These considerations lead me to doubt whether the systemic capillaries can take any but a very moderate share in the production of the morbid vascular resistance which we are considering.

One word more before I end this very imperfect letter. I find it difficult to accept the view expressed by Sir Douglas Powell to the effect that loss of arterial elasticity "tends to a low blood pressure and at the same time to cardiac hypertrophy." Given a healthy heart, is not the arterial blood pressure the measure of vascular resistance? And does not low arterial blood pressure (I am still assuming the heart to be healthy) imply that the vascular resistance which the heart has to overcome is correspondingly low? Does it not, in other words, imply diminished rather than increased work for this organ?

I am, Sirs, yours faithfully,

Wimpole-street, W., Feb. 8th, 1903. HARRY CAMPBELL.

ORGANIC COMPOUNDS OF ARSENIC.

To the Editors of THE LANCET.

SIRS,—With regard to Sir Thomas R. Fraser's paper on Arrhénal and his conclusions as to the physiological inactivity of organically combined arsenic, it may be of interest to point out that Robert Bunsen 60 years ago demonstrated the comparatively non-toxic nature of the cacodylic compounds. He injected 0·35 gramme of cacodylic acid into the marginal vein of a rabbit's ear without producing toxic symptoms. Later Rabuteau determined the minimum lethal dose for a medium-sized bitch as two grammes (about 30 grains or 16 grains of arsenious acid).

I am, Sirs, yours faithfully,

J. M. FORTESCUE-BRICKDALE, M.A., M.D. Oxon.

Clifton, Bristol, Feb. 9th, 1903.

THE MEANING OF URIC ACID AND THE URATES.

To the Editors of THE LANCET.

SIRS,—If I may be permitted to make a few remarks in reply to those of Dr. Woods-Hutchinson[1] I would say that the method I have used for the estimation of uric acid was subject to some criticism when it first appeared in 1885, but that Professor Haycraft has long since vindicated its position and it is to be found to-day, as the bibliography of my book ("Uric Acid") shows, in most European standard works of reference. I think also that anyone who will read carefully the experimental portion of my book will see that the chief results there recorded are far beyond the range of any single method, and can be demonstrated by many methods, even by a third-year student of physiology, with no more elaborate instrument than the point of his finger. For the food-poisoning which has been dignified by the names of many diseases produces two main classes of effects—(1) those general on the circulation; and (2) those local on the tissues; and the former are so very obvious that it may be said to-day that no taker of poisons (flesh, tea, &c.) ever has a capillary circulation as quick as that of those who abstain from poison, the difference even amounting to 50 per cent.; nor have the self-poisoners as good a blood condition (blood decimal or worth), the difference here amounting to quite 20 or 30 per cent. I have often offered rewards of £5 and upwards to anyone who will produce a habitual taker of flesh and tea with a circulation and blood colour equal to my own. No one has as yet claimed the reward; perhaps Dr. Woods-Hutchinson will now do so. A glance at the gums in good daylight and a touch with the finger on the front of the chest generally suffice to dispose of the claims of all self-poisoners, as I demonstrated to some of those who attended the recent debate on Professor T. Clifford Allbutt's paper on the Rise of Blood Pressure in Later Life (see THE LANCET, Jan. 17th, p. 171); and this rise of blood pressure in later life with its collæmia (uricacidæmia) and anæmia is as simple and easy to explain for those who understand uric acid pathology as the rheumatism and chlorosis in girls of 13 and 17, which it exactly parallels. So much for the great circulation group of uric-acid poisoning, though I may say in passing that the intestinal putrefaction on which Dr. Woods-Hutchinson lays so much stress can easily be proved to be a mere result of the defective circulation which uric acid produces. Put the circulation right and no intestinal antiseptics will ever be required, for stomach, liver, and intestines will be able to act normally. As to the local group of uric-acid troubles it is my experience, and that of hundreds of others, that to abstain from swallowing these poisons for from 18 months to two years means relief or cure of all arthritis and local pain which is due to uric acid, and that any relapse into taking of uric acid promptly brings them back again. It is to the gradual spread of a knowledge of these simple facts and to the practical results which follow their application that the present wide acceptance of my

[1] THE LANCET, Jan. 31st, 1903, p. 292.

views is due, and this has astonished Dr. Woods-Hutchinson because he has confined himself too much to ancient theories and has made too small an attempt to examine modern facts which can be demonstrated in a few moments. With regard to his conclusions I may point out that I, for one, have never suggested the limitation of nitrogenous food, except in relation to body-weight; and there I have always adopted the ordinary physiological standard of from nine to ten grains of albumin per pound per day. Finally, I assert, without fear of contradiction, that the gouty or uric-acid diathesis is a myth, the product of past ignorance; and that all those who cease to swallow uric acid will also soon cease to be lethargic, anæmic, and puffy, walking or limping demonstrations of its poisonous effects. Of many such with their short and miserable lives it may be truly said, they "do not die, they kill themselves."

I am, Sirs, yours faithfully,

Brook-street, W., Feb. 9th, 1903. ALEXANDER HAIG.

ASEPTIC AND ANTISEPTIC SURGERY.

To the Editors of THE LANCET.

SIRS,—Writing under this heading in THE LANCET of Feb. 7th, p. 347, Mr. W. Watson Cheyne says that the return of buried sutures is due to their infection at the time of operation and not to any defect in the nature of the material used. With this statement most surgeons will agree and admit that the infection is due to contact with the hands of the operator or his assistants. Mr. Watson Cheyne seems to think that it is not due to want of initial disinfection of the hands but to the neglect of use of chemical solutions during the progress of the operation and he goes on to say that the "aseptic method" lays too much stress on marble floors and rounded corners and neglects to enforce disinfection of the hands and general care during the conduct of an operation. This is certainly not my experience and I fail to see why a person working in a clean room should be less careful than one working in a room that is hard to clean. In addition, I believe that a student who is made to change his boots and to envelop himself in a clean overall is not less likely to clean his hands than one who simply takes off his coat, puts on an old mackintosh apron, and pins a carbolised towel round his neck. It is then stated that the nurse trained in aseptic methods is likely to pick up an instrument off the floor, to return it as sterile after two seconds in the steriliser, to touch the handle of the door, or to soil her hands in some other way, and then without disinfecting her hands to return and to help at the operation. This certainly cannot be laid at the door of aseptic technique which, above all things, teaches the value of soap, even if it tends to minimise the use of chemicals.

On the other hand, a student or nurse trained in the antiseptic school is prone to place too much reliance on a wash in chemicals and too little in hot soap and water. In the same way a person trained to believe largely in disinfection by chemicals is more likely to think "medicated" cotton wool sterile than one who has been taught that dressings are to be sterilised by pressure steam or boiling water. In spite of some experiments performed at Liverpool it is still unlikely that the human skin can with any certainty be rendered sterile. A method that bears this in mind and teaches that dressings, swabs, ligatures, and instruments after being sterilised in the most perfect method known should be handled as little as possible and that the hands should be kept out of wounds or covered with boiled rubber gloves is better than one that lays great stress on the use of chemical disinfections. In this connexion it is well to remember that Bulloch and Andrewes have recently stated that some pus-producing organisms are extremely resistant to the persalts of mercury. I have seen both methods carried out side by side over a considerable period of time, and in this instance the aseptic method was not behind the antiseptic in results. The adoption of the aseptic method does not involve the abandonment of suture in layers; silk, silkworm gut, all sterilised by heat, can be buried with safety. Judging from recent literature the Americans have not given up suture in layers, but some operators by the adoption of a particular form of knot have contrived to withdraw their continuous buried sutures after healing is complete.

I cannot see that there is any great difficulty in carrying out the aseptic technique in private practice. At St. Thomas's Hospital boxes containing sterilised towels, swabs, and dressings have for some time been provided for the staff. If these are not to be obtained boiling water is always available and by its means all that is required can be as efficiently sterilised as by chemicals. There is certainly no harm in weak antiseptic solutions, but when strong ones are used to disinfect the skin the hands of some operators become a positive danger in themselves.

In conclusion, I doubt that anyone who has worked with the aseptic method will agree with Mr. Watson Cheyne that it leads to a lax and careless technique.

I am, Sirs, yours faithfully,

CUTHBERT S. WALLACE.

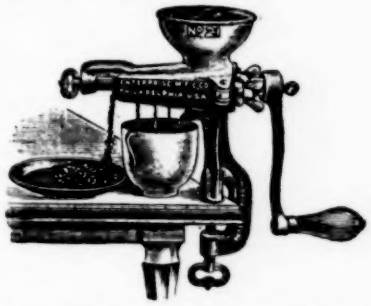
Upper Wimpole-street, W., Feb. 7th, 1903.

SPECIAL BEEF-TEA.

To the Editors of THE LANCET.

SIRS,—Having studied a remarkable article by M. Charles Richet, of the Faculty of Medicine of Paris (*La Semaine Médicale*, July 18th, 1900), my interest in the use of raw meat and raw meat juice was greatly revived, and I realised that so far I had not given the matter fair trial. Of the value of such nutriment, especially in cases of exhausting diseases such as tuberculosis in its various forms, I was quite satisfied. However, I was met by such difficulties in inducing patients to drink raw meat juice that I was driven to make experiments in order to render it more palatable and acceptable. I tried it administered in a coloured glass, also mixed with port wine, also sweetened, and even in effervescence. All failed in most cases. At last I succeeded in accomplishing the end and I now publish the method after more than two years' trial and experience. We are all familiar with the differences of opinion regarding the value of beef-tea. Some set it down as almost worthless; others praise it too highly. The truth seems, as usual, to lie between. My own impression is that beef-tea, as ordinarily prepared, is mainly a mild stimulant, especially of appetite, and of small nutritive value.

I shall now offer a new receipt for a "special beef-tea," in which the nutritious elements are preserved, and reinforced, as far as possible. I may premise that it is mainly a device for administering raw meat juice in a form so palatable and concealed that even the most delicate and fastidious do not refuse it, but on the contrary, relish it. I have used it extensively for the last two years, and with most satisfactory results. The receipt is as follows:—First procure an "Enterprise Meat Juice Extractor" and study its construction and use.[1] It is simple and comes asunder easily. Before use, and when it needs cleaning, pour scalding water through and over it.[2]



To use: Screw it to the kitchen table, and place beneath it two dishes, one under the body of the extractor to receive the meat juice, and another at the end, near the screw, to receive the crushed meat. Take now two pounds of beef steak cut thick, pepper and salt lightly, and then broil on a quick clear fire on a gridiron, or dry frying-pan, so as to brown the outside and leave the interior raw. Now cut into strips and pass through the extractor. A little practice is needful here to adjust the screw at the

[1] This Extractor is of American make, imported by John G. Rollins and Co., Old Swan Wharf, London, and sold in Dublin by Fannin and Co., 41, Grafton-street, and Messrs. Hughes, 23, Dawson-street.

[2] A similar meat juice extractor was described in THE LANCET of Oct. 26th, 1901, p. 1150.—ED. L.

end of the extractor, so as to get all the juice to pour out from the slot in the under surface of the instrument. If the screw is tightened up too much the pulped meat will come through with the juice. If, on the other hand, the screw is left too far out the meat is not compressed sufficiently and the quantity of the juice is reduced. A little experience enables the operator to strike the right point. Two pounds of beef should give about two wineglassfuls of juice. Collect the juice and separately collect the crushed meat. Strain the juice through muslin and leave it aside till wanted. Next take the crushed meat, pour on it a pint and a half of cold water, and let it stand for two hours. Then simmer very slowly for two hours, set it aside, and when cold strain off the clear fluid.

For use, heat this clear beef-tea and when it is just fit to drink—say at a temperature of 105° to 115° F., just comfortable to swallow—add to it the strained raw meat juice. Flavour with salt and serve. Observe particularly that the meat juice must be added when the beef-tea is so far cooled that the patient can drink it. If the beef-tea is hotter (say 160° F. or over) the albumen of the meat juice coagulates and its nutritive value is deteriorated. Beef-tea thus prepared is very palatable and can be given to patients without their knowing that they are taking raw meat juice—a very important matter as many persons would not touch raw meat if they knew it. For those who like a full-flavoured beef-tea half a teaspoonful of "Maggi's essence aux fines herbes" may be added. This excellent condiment can be had from Cosenza and Co., 95, Wigmore-street, London, W. This beef-tea may be rendered still more nutritious by the addition of some farinaceous element, as follows. Before the addition of the raw meat juice bring the clear beef-tea to boiling point and then dust in a teaspoonful or so of Groult's tapioca and boil for ten minutes or until the tapioca is transparent; or add to it a teaspoonful of fine arrowroot or cornflour, blended in a tablespoonful of water, boiling then for ten minutes. Now let the beef-tea cool so as to be fit to drink, then add the salt or flavouring essence and the strained raw meat juice. I have never yet met a patient who did not like this "special beef-tea" and take it willingly. I am, Sirs, yours faithfully,

Dublin, February, 1903. FRANCIS R. CRUISE, M.D. Dub.

URANIUM SALTS IN CANCER: A SUGGESTION.

To the Editors of THE LANCET.

SIRS,—Any drug that offers the faintest hope in the treatment of cancer seems worthy of a trial. Now, since cancer seems to begin as an overgrowth of the cell, anything that tends to modify this might do good. Uranium nitrate when given to animals causes ulceration at the pyloric end of the stomach, but when given to man does not do so, though it doubtless tends to. It might be worth an extended trial in certain cases of cancer at the pyloric end of the stomach and it would be interesting to know in what way the cells had been modified as shown by the microscope. The action of uranium is specific, since it acts in animals when the drug has not been introduced directly into the stomach. From this one might reason that it would modify an overgrowth of the cell in any part of the body, and that a sterilised injection into a growth, be it cancer or fibroid, might do some good. The claims of a country practice do not allow me to work out all this, and the material is not available. My only experience is in the case of cancer of the larynx, where a 1 per cent. spray had a marked effect in checking hæmorrhage and in lengthening the interval between each attack. I have put the idea before some of my medical friends in Liverpool and they think it worth a trial; but as I cannot find any record of its use in this way, I venture to bring it forward. Dr. S. West has used it with some promise in diabetes and has given it in doses of from one-eighth of a grain up to 20 grains three times a day. The late Dr. Drysdale recorded a cure in ulcer of the stomach. The action of uranium in diabetes has been thought to be due to its helping to eliminate uric acid, and this brings another view of cancer before us. It seems to be established that cancer is more common in the well-nourished, and it may be that the overgrowth of the cell is due to excess of nutrition over combustion and excretion, thus causing products akin to uric acid to irritate and so cause an increased growth. If this is so, then probably the best drug would be salicylate of uranium when the chemist can make it. For experience teaches me that there is a good deal in Dr. Haig's opinion of the value of the salicylates in chronic gouty conditions. Possibly they act by increasing combustion and oxidising uric acid into urea, or in fevers by oxidising the specific virus to render it inert. No one, of course, expects a drug to cure cancer, but it might be possible to modify it in the way that mercury modifies syphilis. When mounted on a theory one is apt to ride it to absurdity, but it may be that such growths as post-nasal adenoids which are far more common in the children of the rich and presumably well-nourished than in the children of the poor, may be due to excess of nutrition over combustion either in the mother or child or both. The theory occurred to me before I had heard of uranium and as the drug seemed to offer some chance of success I venture to put it forward in the hope that some may think it worthy of a trial.

I am, Sirs, yours faithfully,

ARTHUR C. WILSON, M.B., Ch.B. Vict.

Formby, Feb. 4th, 1903.

BRISTOL AND THE NON-VENTILATION OF SEWERS.

To the Editors of THE LANCET.

SIRS,—Your Special Commissioner's report on the above subject, published in THE LANCET of Jan. 17th, p. 202, shows that notwithstanding the long stretch of daily exposed mud or river deposit and its system of non-ventilation of sewers Bristol has always had a better health record than towns and districts professing to have a system. This, one would think, should have called forth remarks either from the engineers or the medical officers of health connected with towns and districts whose records are not so good as Bristol, and also of towns and districts, including the London districts, whose records have a better average.

There cannot be much doubt but that the major portion of sewered towns and districts suffer from systems which are most defective in that the ventilators of the *lower levels poison the atmosphere of the higher levels*, and the leaky sewers of the higher levels poison the atmosphere of the lower levels *viâ* air currents underground, including the channels into the residences formed around drains, water- and gas-pipes, &c., the circulation set up causing a more virulent outbreak of illness in the high portions of the town than in the lower, the higher portion being supposed to be the most healthy and containing as a rule the better class of residents. Trusting that even now the question (which is a serious and most important one) may have attention from those able thoroughly to discuss it. I am, Sirs, yours faithfully,

Feb. 3rd, 1903. D. T. BOSTEL, Sen.

THE DANGERS OF CALCIUM CARBIDE.

To the Editors of THE LANCET.

SIRS,—Calcium carbide is a substance which has come into considerable use within the last few years, as it has the unique property of developing a gas which can be used as an illuminant when water is poured on it. Not only is it used for lighting houses, &c., as a source of acetylene gas, but it is extensively adopted all over the country for bicycle lamps. This substance is already the subject of legislative enactments as to storage, &c., on account of its inflammable and explosive character, but I beg to point out that it has been overlooked from the public health point of view and that persons who are compelled to handle it should be protected by provisions of law.

My attention was forcibly directed to this matter by a patient who presented himself for treatment for dyspnœa, hæmoptysis, headache, anorexia, and various neurasthenic symptoms, and who exhibited signs of patchy consolidation of the lungs, but who exhibited no rise of temperature or sign of tuberculous trouble. He was a lad, aged 14 years, but quite stunted for that age, and on questioning him to elucidate some cause for his symptoms I discovered that his occupation was to fill tins with calcium carbide and he gave a vivid and graphic description of the hissing sound which was produced when a particle of the substance happened to be inhaled through the nose or get down the throat, as well as the irritant cough and difficulty of breathing which troubled him whilst at work and the comparative ease he at once enjoyed when he got into the air. From the violent

chemical action which takes place when calcium carbide comes in contact with any mucous surface I suggest that some protection for workers with it is imperative.

I am, Sirs, yours faithfully,

Dublin, Feb. 5th, 1903. J. C. MCWALTER, M.A., D.P.H.

THE MIDWIVES ACT.

To the Editors of THE LANCET.

SIRS,—The passing of the Midwives Act of 1902 devolves a grave responsibility on the nation in order that, as the untrained midwife vanishes, the poor who either cannot, or will not, be attended by medical men may not be left without necessary assistance. A clergyman writes to me, "We have no maternity charity or help of any sort towards doctor or nurse; ..... it is sad to see the suffering from neglect and ignorance and feel utterly at the mercy of these untrained women. How the Act will affect us I cannot guess if it stops the present dangerous system and gives us nothing in its place. I am not sure that it will be an advantage. I am sure our poor women won't consider it so. They can't afford to engage a trained monthly nurse, especially from a distance, or to send for a doctor."

Now it is to help these remote scattered parishes, as well also as the crowded provincial towns where these untrained women are so numerous and prosperous that I am anxious to gain the sympathy of those able to help. First of all, I would enlist the coöperation of the local medical man who feels that the village midwife working under proper supervision would be a help rather than a hindrance to his work—of the busy and often overworked family practitioner who recognises the fact that such women will relieve the pressure by taking those cases that use up his most valuable time and pay so little, if at all, and whom he may trust to send for him in good time when surgical skill is required. Then I would, where nursing associations exist or could be started, have one or two midwives attached and thus make use of existing organisations where possible. I have done this in my own case; the woman prepays an extra fee of from 5*s.* to 10*s.*, which is returned to her if the medical man is not required. If he is sent for the association guarantees the payment.

In very sparsely populated districts one or two might join together to provide a midwife, and the midwife might be encouraged to combine with her work some occupation not detrimental to her calling. In towns the work would become quickly self-paying, and I feel that a very moderate outlay would start a sound, substantial work. I cordially invite those interested, and especially medical men who approve of this scheme, to communicate with me, and I would ask others to help me with funds to make a good beginning.

I am, Sirs, yours faithfully,

JOSEPHINE JOHNSTONE.

Bignor Park, Pulborough, Feb. 7th, 1903.

THE SURGICAL TREATMENT OF RHEUMATIC FEVER.

To the Editors of THE LANCET.

SIRS,—From a long experience in South China, I can fully confirm the statements made by Dr. A. Haig in his letter under the above heading in THE LANCET of Feb. 7th, p. 398. Arthritic pains of all kinds are quickly relieved by the salicylates during the cool season, but much harm may follow if given when the thermometer stands above 80° F.

I am, Sirs, yours faithfully,

EDWARD HORDER, F.R.C.S. Edin.

Limpsfield, Feb. 9th, 1903.

"'TIS FORTY YEARS SINCE."

To the Editors of THE LANCET.

SIRS,—Having had occasion to refer to the lists of the London hospital staffs of 40 years ago as given in the Students' Number of THE LANCET of Sept. 20th, 1862, I think that it may interest your readers if I give a brief summary as to the survivorship of these gentlemen. Of course all who held office in 1862 have retired from active hospital work, as life appointments have long ceased to exist, and I shall only mention those still living.

At St. Bartholomew's Mr. Luther Holden, then assistant surgeon, is the sole survivor of the hospital staff, and Sir Thomas Smith, K.C.V.O., then demonstrator, of the teaching staff. At Charing Cross Mr. R. Barwell, then assistant surgeon, alone survives. At St. George's Sir Henry Pitman and Dr. J. W. Ogle, who were physician and assistant physician, Mr. Holmes, assistant surgeon, and Dr. W. Ogle, lecturer on physiology, survive. At Guy's Sir S. Wilks and Dr. F. W. Pavy, assistant physicians, Mr. J. Birkett, surgeon, and Mr. T. Bryant, assistant surgeon, remain. At King's College Dr. L. S. Beale, physician, Dr. A. B. Duffin, Dr. E. Thompson, and Dr. E. Liveing, assistant physicians, and Mr. Spencer Watson, assistant surgeon, remain. At the London Dr. R. Barnes, obstetric physician, and Mr. J. Hutchinson, Mr. J. Couper, and Mr. L. S. Little, assistant surgeons, survive. At St. Mary's Sir E. H. Sieveking, physician, with Sir W. H. Broadbent (physiology), and Mr. A. H. Norton, demonstrator, are the survivors. At the Middlesex Mr. Mitchell Henry and Mr. T. W. Nunn, assistant surgeons, and Dr. R. Liveing, demonstrator, survive. At the Royal Free Mr. Thomas H. Wakley and Mr. F. J. Gant, surgeons, and Mr. Hasler Harris, dental surgeon, remain. At St. Thomas's Dr. E. Clapton, assistant physician, Dr. H. Gervis, assistant accoucheur, Sir John Simon, K.C.B., surgeon, and Mr. Sydney Jones, assistant surgeon, survive. At University Sir Alfred B. Garrod, physician, and Sir H. Thompson, assistant surgeon, with Professor Williamson (chemistry), and Professor Oliver (botany) remain. At Westminster Dr. P. W. Latham, assistant physician, and Mr. H. Power and Mr. C. Heath, assistant surgeons, and Dr. Dupré (chemistry) survive.

I am, Sirs, yours obediently,

HISTORICUS.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Epidemic.

THE mortality from plague throughout India is advancing by leaps and bounds. This week the total has risen to 19,224. The details published are: Bombay Presidency, 8962 deaths; the Punjab, 2442; the United Provinces, 2291; Bengal, 2124; the Central Provinces, 605; the Madras Presidency, 683; the Mysore State, 806: Bombay City, 443; and Calcutta, 37. In Poona the disease is raging very virulently; nearly 100 deaths are occurring daily, the normal death-rate of the city being 12. In Calcutta a fresh outbreak has started and the figures are running up rapidly. This year the general development of plague is more widespread and involves a larger population than at any previous period. The Government has been compelled to abandon the system of inspection for plague on the railways in the United Provinces as hopeless. This inspection is credited with having postponed the invasion of certain areas, but when the disease has once attacked a province precautions on the railways are of no further avail.

Jan. 24th.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—At an "At Home" held at the Bath Saloon, Truro, on Feb. 5th, the Mayor of Truro, on behalf of the subscribers, presented Mr. Frederick Harold Carlyon, M.D., C.M. Edin., with an illuminated address and a cheque for £55 as a mark of respect and esteem on the occasion of his leaving for Johannesburg. The Mayoress presented Mrs. Carlyon with a diamond and sapphire bracelet.—Mr. Michael Halpenny, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has recently been presented with a gold semi-hunter keyless watch and a purse containing a sum of money by the inhabitants of Gilfach Goch. Mr. Halpenny recently left Gilfach Goch to practise in Ireland.—At De Keyser's Royal Hotel, Thames-embankment, London, E.C., on Feb. 4th, Mr. Theophilus Hoskin, J.P., L.R.C.P. Lond., M.R.C.S. Eng., was presented by the Master of the Worshipful Company of Makers of Playing Cards with a silver salver bearing the following inscription:—"Presented to Dr. Theophilus Hoskin, J.P., by his colleagues on the Court of Assistants of the Worshipful Company of Makers of Playing Cards, in commemoration of his services to the Company as Master, 1901 1902."

THE ORGANISATION OF THE PROFESSION.

(FROM OUR SPECIAL COMMISSIONER.)

Prompt Formation of an Association by the Swansea Practitioners.—The New Organisation Deals with Emergency Vaccinations.—It Commences the Battle of the Clubs.—The Local Custom of not paying for Attendance on the Wives and Children of Members of Clubs.

THE medical practitioners of Swansea have set a good example. There are one or more unions of colliery surgeons in the South Wales mining districts, but in the large towns no successful attempt at organisation has been made. It is true that at Swansea the need of some such effort was more especially urgent, but what is most required is not always obtained. Some 18 months ago at a meeting of the local branch of the British Medical Association the question of club practice was discussed and a committee was appointed to look into the subject, but the matter fell through and nothing appears to have been done, at least by the British Medical Association. After the lapse of several months a few practitioners met at Mr. J. Kynaston Couch's house to talk over their grievances in an informal manner. Though there were but six practitioners present they nevertheless determined to strive to form a medical union for the express purpose of dealing with economic questions. For this purpose they appealed to all the medical men in practice in Swansea and the great majority were very willing to take part in the movement. Only a few hesitated. In May, 1902, sufficient propaganda work had been done and the initiators ventured to summon a general meeting. This meeting elected a committee which was to frame rules and generally to pave the way for the formation of a society. The committee met several times and then convoked another general meeting which was held at the Swansea Hospital on June 3rd. Of the 50 practitioners invited 22 were present, minutes were taken, and from that date the union of the Swansea medical men may be said to have come into existence. Indeed, it was then formally proposed by Mr. A. Lloyd Jones and seconded by Mr. Jabez Thomas:—

That the practitioners of Swansea and district be invited hereby to form themselves into an association for the purpose of raising the standard of contract practice and that such association be called the Medical Practitioners' Association of Swansea and District.

This was carried and then Dr. T. D. Griffiths was elected president and Mr. Couch and Dr. John D. Davies were elected secretaries, together with a committee of ten. Their first business was to call on all the medical practitioners who had not yet replied to the circulars sent to them. Following quickly upon this action another general meeting was convoked at the hospital on June 10th and this time 28 practitioners were present. Vice-presidents and other officers were appointed, a temporary subscription of 5*s.* per member was fixed upon, and the committee was instructed to study at once the question of a minimum rate of remuneration for contract work. This committee met on June 12th and 16th and yet another general meeting was convoked for June 20th. On this latter occasion the rules, with some slight alterations, were finally adopted. It was also decided to select a solicitor who should be consulted in regard to the bond or pledge which it was proposed to impose on all the members. This was done, and the following is the text of the pledge which has now been signed by 55 medical men of Swansea and neighbourhood:—

We, the undersigned, members of the medical profession practising in Swansea and district, pledge ourselves honourably to adhere to the following rules and regulations adopted at a general meeting of the Swansea and District Medical Practitioners' Association held on June 20th, 1902, and refuse to recognise in any way any medical man who acts in opposition to any of these rules and resolutions.

The following are the most important of these rules and it will be seen that they are so framed as to apply to the struggle waged in regard to contract work:—

8. That in the event of any member being given notice to terminate his engagement by any club or works the grounds for complaint will, at the request of such member, be considered by the association, and if, in the opinion of a majority of two-thirds of the meeting the grounds for complaint be unjust or frivolous, the member will be supported by the association to the extent that no member may become a candidate for such a position.

9. If any member applies for an increase (above the minimum) from any club or works such member shall, before making such application, bring the matter before the association and, if approved, the member will be supported to the same extent as in Rule No. 8.

10. In the case of any medical man coming into the district, or any medical man at present in the district accepting any appointment contrary to the rules of this association, no member may meet the said medical man in consultation, or act as or meet his deputy in consultation.

11. That any member of this association employing an assistant or entering into partnership with any other medical man shall make it a condition of appointment or partnership that the assistant or partner shall at once become a member of this association. In the case of an assistant there shall be no annual contribution.

12. That in case of any dispute arising between members with regard to the interpretation of these rules the matter shall be referred to the association, and the final interpretation shall be decided by a majority of two-thirds of its members.

Having regard to these principles and rules the association did not lose a moment but at once proceeded to take action. The committee met on July 1st and agreed that a demand for an increase should be made, beginning with the workmen's medical aid funds organised at the different works. There are at Swansea numerous works for the extraction of metals such as copper, silver, and iron from ore, and for the manufacture of steel, of tin-plates, of jointless steel tubes, &c. From time immemorial a medical attendant has been appointed to these works, and formerly he used to be selected by the employer. Of late years, however, the workmen have maintained that they should themselves dispose of the money which they subscribe and should select their own medical attendant. Therefore the employer now only deducts from the wages the sum agreed upon, and, in fact, acts as a collector for the men. The men employed at the same works agree to pay 8*d.* or 1*s.* per month for medical aid purposes. This sum is handed over to the medical man whom they have selected without, as a rule, any commission being charged for the trouble of collecting. A sub-committee met on July 3rd and 8th to draft the text of the demand of the medical men, when an incident occurred which created an interlude but gave the members of the profession their first opportunity of testing the efficacy and advantage of organisation.

An emergency general meeting of the association had to be convoked on July 14th to consider a circular sent by the poor-law guardians to each medical practitioner in the town. There was at that time a small-pox scare and the guardians asked each practitioner whether he was willing to undertake house-to-house vaccination in his district for 2*s.* 6*d.* per case. It was felt that the medical men should not be left to answer individually this application; that this was a case for joint action and that all should agree and insist upon the same terms. This impression was confirmed by the result, for at the meeting a motion was carried appointing a deputation to wait upon the vaccination sub-committee of the guardians and to explain that the Swansea and District Medical Practitioners' Association was anxious to afford every assistance to the guardians in their endeavours to stamp out small-pox and approved of the proposition of the guardians to organise a house-to-house visitation for the purpose of revaccination. The association was glad to approve the undertaking of this work by its members at the remuneration offered by the guardians provided that no subsequent visit for inspection was required and that the lymph was supplied or paid for by the guardians. Otherwise the association would consider that the work should be paid for at rates not lower than those which the Local Government Board had formulated as a minimum. The association further recommended that the house of every medical practitioner willing to undertake such work should temporarily and during the emergency be converted into a public vaccination station. The guardians, in reply, agreed to supply the lymph and to pay 2*s.* 6*d.* for vaccinations at the patient's home. The arm was to be inspected subsequently at the vaccinator's surgery. If the vaccination was performed at the surgery then the vaccinator was to supply his own lymph. Thus it will be seen that on the whole a satisfactory arrangement was concluded. It is true that later someone discovered that it was quite illegal, but this does not seem to matter, for while it lasted the arrangement worked satisfactorily for all the parties concerned.

While this was proceeding the main work of the Swansea and District Medical Practitioners' Association was being pushed forward with the rapidity and energy which have distinguished the proceedings throughout. Rarely has an association of this sort held so many meetings in such close succession and organised itself into a fighting machine so

rapidly. When the next general meeting was held on August 15th the demand had been forwarded to all the medical aid associations formed in connexion with the different works of the town, and now it was decided that a similar letter should be sent to the different clubs or friendly societies. This letter took the form of a sort of circular and was forthwith forwarded to 76 courts, lodges, tents, branches, &c., of the friendly societies. It at once disclosed what is the special grievance at Swansea. As a rule the families are not included in the membership of friendly societies or clubs. If contract work is accepted for the wife and children of members—and this has been strenuously resisted in many localities—then a separate payment is required for the wife and each of the children. As a rule, the general charge is 1*d.* a week for the man and the same for his wife, while the children up to the age of 14 years are paid for at the rate of ½*d.* a week. Should, however, the family be so large that the total sum would exceed 6*d.* per week not more than 6*d.* is charged. A totally different system obtains at Swansea, and this not only with regard to the friendly societies but also with respect to the medical aid associations formed by the employés of the different works. The members all pay the same sum whether married or not and if they have families the members of the families consider themselves entitled to receive gratuitous medical attendance. Unless it be urged the bachelors pay for them nothing is paid, and yet they all receive medical advice, medicine, and care. It is only when a confinement occurs that a special payment is made for the wives of members and then this is but 10*s.* 6*d.* In such extraordinary circumstances it would be thought that the men must pay a very large sum indeed if their families, however numerous, are attended without any extra charge. But this is not the case. Some friendly societies did not pay more than 4*s.* 6*d* a year, others 6*s.*, and others 8*s.*; but 6*s.* 6*d.* was considered a fair average. 1*d.* per week each for husband and wife makes 8*s.* 8*d.* per annum and ½*d.* for the children makes 2*s.* 2*d.* more per child; but here entire families, however numerous, only paid on an average 6*s.* 6*d.* These most unfair conditions were instituted 35 or more years ago, and up to the present time they had not been altered. The Swansea and District Medical Practitioners' Association in some of its circulars points out that formerly unqualified assistants could be obtained for from £60 to £80 a year and qualified assistants for from £100 to £120. Now none but qualified assistants can be employed and they must be paid from £200 to £250. Then it estimates the cost of qualification at £1000 instead of £500 and the time as six instead of three years as formerly. While the expenses of a medical education, of medical practice, and of medicines and dressings have so much increased and thus reduced the profits a medical man may hope to realise, the wages of the working classes at Swansea have increased considerably. The circulars also give details in regard to the larger payments made in other towns.

A question of tactics now presented itself. Dr. Davies and one or two others addressed themselves early in the history of this movement to the medical aid organisations of the works to which they were attached and succeeded in obtaining an increase from the 8*s.* or 10*s.* which they had been receiving to 13*s.* per family per annum. It was thought that such individual successes would serve as a precedent, yet others making similar applications were refused. Then the association applied on behalf of all the practitioners to all the medical aid organisations at the works and to all the friendly societies. Now the question of tactics is whether it would have occasioned less feeling if each medical practitioner had conducted his own case. A single lodge could not import a medical officer from the outside, but this collective appeal on the part of their medical officers was the means of eliciting a collective reply and collective resistance. Then, after all, the medical men had been united very recently and in great haste. The bond drawn up between them had had no time to be tested and no one could tell what was its strength. As a matter of fact, a few weak links were discovered which still further encouraged the friendly and other societies to resist the demands of the medical profession, and they did not fail to bring forth the old threat which has done service in so many places of amalgamating all the societies so as to start a medical institute with their own medical men and thus to be independent of all the medical practitioners of the town. However, a great deal was done to clear the air by the acceptance on both sides of a proposal to hold a joint meeting and ten medical men were appointed to meet ten delegates of the friendly societies. This meeting occurred on Nov. 12th last and both sides had ample opportunity to make the best of their case. It was a means of throwing light on the one-sided view that is often taken. For instance, one workman argued that if the fee were raised many members would leave the friendly societies, and that these would be the most healthy men, the men who gave the least trouble either to the society or to its medical officer, and therefore he did not see the use of paying more. Some men had left two years ago when the subscriptions were raised and said that they did not want sick allowances. As for the proposal to raise the charge for midwifery to £1 1*s.*, half that sum was quite enough, for at such moments workmen had many other extra expenses to meet. It will be seen that in this not a thought is given to the other side—namely, the needs of the medical attendants. In regard to midwifery it is forgotten that in easy cases the medical officer is not sent for at all. It is only in difficult cases that his assistance is requested and then there is more than usual trouble and much time and many visits have to be devoted to the patient. Therefore a fee of 10*s.* 6*d.* is absolutely inadequate. As for men leaving the friendly societies this is decidedly advantageous to the medical practitioners, because when they are ill they pay full fees. Thus what the workman qualifies as unfortunate is considered fortunate by the medical practitioner and it follows that such divergence of interests requires careful handling and a thorough knowledge of both points of view if reconciliation is to be rendered possible.

The workmen also argue that in regard to the increased cost of living this affects them equally. Here there is a misunderstanding. The chief increase in the cost of living is in rent, rates, and taxes, and in this the workman suffers as much as, and in regard to rent, at least in large towns, even more than, the medical men. But as a whole, with the great reduction in the cost of provisions and clothes, living is cheaper now than it was 30 or 50 years ago. What has increased in cost is the especial outlay that a medical man has to incur so as to obtain his qualification to practise, and to purchase drugs, instruments, &c. To put workmen in the same position it would be necessary to enact a law rendering it illegal to employ any workman in any trade unless he had a diploma to show that he had been through a course of technical training and had passed a qualifying examination. This is actually done in a voluntary manner in regard to plumbers and it might greatly contribute to maintain the industrial supremacy of this country if something of the sort were imposed in many other crafts and industries. But as matters now stand a workman when a mere youth actually earns money while he is learning his trade. It is but in a few trades that a period of apprenticeship is imposed. By far the best argument on the workman's side is that the rent for working-class tenements or cottages has increased much more in proportion than the rent charged for middle-class villas or houses. At Swansea it is said by the workmen that the cottages for which they paid 3*s* 6*d.* rent per week some 30 years ago are now rented at 8*s.* 6*d.* It is further argued that medical men by taking long leases of their houses can protect themselves against sudden or constant increase of their rent. Also, it is said that the poor-rate at Swansea was 1*s.* 6*d.* in the pound 20 years ago and is now 2*s.* 4*d.*

On the other hand, Mr. E. Reid has calculated that, according to statements made by the corporation, and at the Lambeth Copper Works and the gas works it appears that during the last 20 years wages have increased for joiners from 33*s.* to 38*s.* 3*d.* per week. The figures are the same for masons, but for plumbers the increase is from 27*s.* to 38*s.* 3*d.* The pay of labourers has risen from 20*s.* to 24*s.* 9*d.*, and in the case of the lowest paid labourer of all—namely, the labourer in the copper works—he now receives 18*s.* instead of 15*s.* a week. Consequently, the workmen can afford to pay more than they did 20 and 30 years ago. They can afford to pay 7*s.* 6*d.* for dog licences and they charter special trains so as to attend football matches held in neighbouring towns; they could therefore afford to pay for medical attendance for their families. It is the question of the families which constitutes the bone of contention at Swansea. For instance, Dr. Rhys Davies states that the Robin Hood Lodge of Foresters had a short time ago 288 members, but there were 193 wives and 270 children; so though there were only 288 members of the society the medical officer had to attend 751

persons. He urged that 751 men would be preferable, for he calculated that three wives gave as much trouble as two husbands and that one child required as much attendance as three men. Therefore he might reckon the 193 women as equal to 289 men and the 270 children as equal to 810 men. Consequently the 288 men with their wives and children gave their medical attendant as much trouble as if the lodge had consisted of 1387 men without families. Again, if there were a club consisting of 100 children, another club of 150 women, and a third club of 300 men, it would not matter to a medical man which club he took if the pay were the same for each. Mr. Reid had calculated that he has given to the members of the Robin Hood Lodge close upon 4000 consultations in the year or 13 consultations for every working day of the year, and this has brought him in 4¼*d.* per consultation. For this paltry sum he had to give his time and the drugs and to pay his tram fares and other working expenses. Mr. Couch has also made calculations and found that when he was receiving on an average 6*s.* a year from members of friendly societies for attending them and their families this did not amount to more than 3*d.* per consultation and he had to give medicine for that sum. He consequently had thrown up all societies that paid less than 7*s.* a year. Then there is a Provident Dispensary at Swansea and this is to some extent a charity and is partly supported by voluntary contributions; nevertheless, the subscribers pay 1*d.* per head for all the members up to 14*s.* a year per family, so that this charity is better than the friendly societies which boast of their independence. Consequently the first demand made was that there should be a considerable increase in the amount of the subscriptions so as to cover the cost of attending the families of the members.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Licensing Question.

AT the opening of the licensing sessions for Manchester on Feb. 6th Mr. T. T. Shann, chairman of the licensing committee, made some interesting observations on the New Licensing Act and on the position of Manchester as compared with some other large towns. In 1901 there were 484 licensed victuallers, 1695 beer licences (on), and 744 others (off), making a total of 2923. Since then some further licences have been granted and now there are 2941 to a population of 543,872, so that there is one licensed house to 184·92 men, women, and children. Thus "Manchester occupies a most unenviable position, both as regards drinking facilities and intemperance, as compared with other large cities and towns." It stands at the head of a list showing the number of licensed houses, population, and proportion of inhabitants to each licensed house in all the cities and towns in England with over 200,000 inhabitants. It has the lowest number of people to each licensed house and possesses several hundred more licensed houses than any other town in the list. Sheffield comes next with one licensed house to 220·95 people. Nor does Salford lag far behind, for its proportion is 1 to 222·30. Seaports are proverbial for drinking facilities, but Manchester surpasses in this respect Bristol, Hull, Newcastle-on-Tyne, and Liverpool. Indeed, Liverpool offers fewer drinking facilities than any in the list except Leeds and West Ham, where the proportion of licensed houses to inhabitants is respectively 1 to 362·91 and 1 to 777·20, which latter stands in marked contrast to Manchester with its proportion of 1 to 184·92. A very large number of the licensed houses are beerhouses, where the sanitary and domestic arrangements are often most unsatisfactory, drinking frequently taking place in the private rooms. Mr. Shann stated that the facilities for drinking were too great in Manchester, as shown by the proportion of licensed houses to population and also by the fact that "the convictions for drunkenness in Manchester are almost double the number per 1000 inhabitants of any other large town." This unenviable state of things is to be altered by a gradual reduction of licences, but with regard to some classes of houses there are certain difficulties. A reduction has already been made of about 11 licences. There is no making people sober, it is said, by Act of Parliament, but it is no less true that with many men the sight of a beerhouse produces a great thirst.

Waterworks for Stockport.

The Stockport corporation has a large scheme in hand and is proceeding with the operations for obtaining a supply of water from Kinder Scout. The sources of the supply, according to the report of Dr. C. Porter, the former medical officer of health, were not ideally perfect, and it will be a great boon to have a supply above suspicion even if it is to cost, as is estimated, nearly a million of money.

More Accommodation for Small-pox.

At the last meeting of the Manchester city council held on Feb. 4th, Alderman McDougall said there were 51 patients in the hospital and there was accommodation for 100, which would soon be required if the small-pox cases increased as they had done during the previous week. The committee, therefore, proposed to provide, at a cost of £1500, another ward for 40 patients, and if necessary a second one for 40 more also at a cost of £1500. He stated that out of 49 cases received at Clayton there had been two deaths—one of a child two weeks old and in the other case the disease was complicated with other ailments. In the meantime the number of cases steadily increases. Four were reported yesterday, one from a lodging-house and three from the Crumpsall workhouse. Since the end of September last over 100 cases have occurred in Manchester. At Eccles yesterday a man was charged with exposing himself while suffering from small-pox and failing to notify his case. He travelled from the borough of Eccles to a brick-croft in Salford and returned, and his friends and relatives also visited him while the eruption was out. Two cases were removed to hospital yesterday in Oldham. It is said to be impossible to know how many cases there are now, as a policy of secrecy is observed, the health committee having given instructions—so it is stated—to its officials to afford no information to the representatives of the press. What is to be gained by this attempt at concealment one cannot tell. Publicity would be less likely to cause panic than concealment, on the principle of *omne ignotum*, &c.

Death of Canon Henn.

By the death of Canon Henn, which took place last week at Deganwy, the Manchester hospitals have lost a friend who more than 30 years ago did a great work on their behalf. In the year 1870 he organised the Hospital Sunday collections and as long as he was in Manchester he performed assiduously the duties of honorary secretary of the Hospital Sunday and Saturday movement. His services in connexion with this work were acknowledged in 1874 by the presentation of a public testimonial which took the form of a purse of money and a silver salver. He was consulted and accepted as a guide in the establishment of similar collections in most large towns and even so far away as Melbourne. Up to 1899 about £225,000 were handed over to the medical charities of Manchester from this source. Canon Henn broke down in health some years since and in 1900 he was compelled to give up his active work. From that time till his death at the age of 72 he lived at Deganwy, near Conway. Till his health failed he was an energetic, hard-working man and his zeal in the cause of the medical charities was only a part of a very full life given to his own calling and to that of education.

Feb. 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal Association for Incurables, Edinburgh.

THE annual meeting of the Royal Association for Incurables, Edinburgh, was held on Feb. 5th in the Longmore Hospital, Dr. Joseph Bell presiding. The report of the committee of management for the year 1902 stated that in April last the association had sanctioned a petition by the committee to His Majesty praying that the association might be incorporated under a Royal charter. They

had every reason to believe that Royal assent to this would be granted in the course of this year. The committee also reported the receipt of a sum of £21,000 from the trustees of the late Miss Brown of Lanfine. By the terms of the will the money was to be utilised as follows: the sum of £6000 to be expended in the provision of a cottage home in the county for incurable cases of consumption: the sum of £14,000 to be held in trust, the interest derived therefrom to be annually devoted to the maintenance of the patients resident in the above home; and the sum of £1000 to be held in trust, the interest thereof to be applied to the outdoor fund of the association. The committee reported that it had selected a site which it believed would be approved by the association. It was at present in treaty for its purchase. The committee, while congratulating the association on this munificent recognition of the value of its work, pointed out that the endowment provided for this new home must only be looked on as the nucleus of an annual revenue, the greater part of which must be obtained from annual subscriptions. The committee hoped to commence building early in 1903. The number of applications for admission to the Longmore Hospital during 1902 had been 259. The number of urgent cases had been far in excess of the available accommodation, with the result that 31 cases had died before they could be admitted and many others had become too ill to move. The total number of beds and cots was 150. The total number of patients in the hospital on Dec. 31st, 1902, was 69 males and 81 females. The daily average number of patients in the hospital during the year was 143. The legacies during the year, including Miss Brown's bequest, amounted to £28,537, as against £5020 in 1901. The donations amounted to £244, as against £141 in 1901. The ordinary subscriptions amounted to only £1460 7*s.* 5*d.* For some years past the ordinary subscriptions had been decreasing. The expenditure of the hospital had largely increased in recent years as a result of the increased number of patients, so that now the ordinary expenditure exceeded the ordinary income by something like £2000 per annum. The committee therefore appealed earnestly to all interested in the hospital to secure an increase in the annual subscriptions to the institution, which was the only one of its kind in the south-eastern district of Scotland. The chairman, in moving the adoption of the report, remarked that he was the last survivor in the service of the hospital of the men who nearly 30 years ago started that institution. The other gentlemen who had been associated with him then had all either gone or had left the service of the hospital. He had had the honour of being on the staff of the hospital and on its directorate from the beginning. That was his only excuse for his being there. Dr. Bell then referred to the various stages in the history of the hospital, a history of which, he said, they had no reason to be ashamed. The income from subscriptions, however, had not grown proportionally with the hospital, but had instead shown a falling off. It was scarcely credible, and certainly not creditable, that in 1882 with 50 beds the subscriptions amounted to £2100, while with 150 beds the subscriptions had fallen to considerably less than that sum. Dr. Bell then referred to the two classes of patients in the hospital—the incurable cases who, notwithstanding, lived for a considerable time, and the more acute and incurable cases, mainly tuberculous and malignant. Although it was a hospital for incurables they nevertheless managed to cure some patients and a cure was very cheering to the other patients as well as to the nurses. One of their incurables was now driving a milk-cart and another had been a tramway conductor for nine years. The oldest inhabitant of the institution had been admitted for paralysis 21 years ago, while another patient would complete her 21 years in six months' time.

Feb. 10th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Rotunda Hospital, Dublin.

ON Feb. 9th a large audience assembled at the Rotunda Hospital to witness the presentation to the hospital by Dr. W. J Smyly of a portrait of Miss Hampson, first lady superintendent of the institution. Sir Percy Grace, Bart., D.L., J.P., occupied the chair. Mr. O'Brien Furlong, K.C., C.B., one of the vice-presidents of the hospital, accepted the portrait on behalf of the board.

Small-pox in Dublin.

At the meeting of the North Dublin rural district council held on Feb. 4th the chairman called attention to the fact that a case of small-pox had occurred in Church-street where many tenement houses were occupied by tramps who came and went constantly. Mr. Edgar Flinn, medical inspector under the Local Government Board, said that he attended that meeting in order to refer to the matter. With regard to vaccination the Local Government Board desired him to state that the guardians should proceed against the numerous defaulters. Within the last month Mr. O'Neill, the clerk, had sent in a return from which it appeared that 70 or 80 people had recently left the locality not vaccinated and might be moving about from one part of the city to another. It was a very serious matter and he thought that the board should require the medical officers to furnish a monthly return in order that defaulters might be traced. That course was decided upon. In reference to the isolation hospital question the medical inspector stated that the present arrangement was that the submarine station near the Pigeon House Fort would be utilised for any cases that might occur and that it was hoped the public health committee would have it ready for the reception of patients within a week or ten days. In the meanwhile the state of things seems ominous, for in addition to the three patients with small-pox admitted to the Hardwicke Hospital another case from one of the large institutions of Dublin was reported on Feb. 10th as having been admitted to the same institution.

The Royal University of Ireland.

At a meeting of the Senate of the Royal University held on Feb. 6th the following appointments were made in the medical faculty for the year:—Medical Fellows: Dr. Ambrose Birmingham, Dr. Joseph P. Pye, Dr. Johnson Symington, Dr. John J. Charles, Dr. D. J Coffey, Dr. John I. Lynham, Mr. John S. McArdle, and Dr. Charles Y. Pearson. Fellow in natural science: Dr. M. Hartog. Examiners: in natural science, Dr. Michael Curran, Mr. Gregg, and Mr. Wilson; in medicine, Dr. James A. Lindsay and Dr. Joseph F. O'Carroll; in pathology, Dr. Edmund J. M'Weeney and Professor J. Lorrain Smith; in midwifery, Professor John W. Byers and Dr. Alfred J. Smith; in medical jurisprudence, Mr. Antony Roche and Dr. Patrick T. O'Sullivan; in materia medica, Dr. Martin Dempsey and Sir William Whitla; in ophthalmic surgery, Dr. Arthur W. Sandford and Mr. Louis Werner; in physiology, Dr. T. H. Milroy; in sanitary science, Sir Charles A. Cameron; in mental diseases, Mr. Conolly Norman and Dr. George Revington. Extern examiners: in surgery, Mr. Charles Stonham, C.M.G.; in midwifery, Dr. Henry Jellett; in pathology, Dr. A. C. O'Sullivan; and in ophthalmology, Dr. William G. Sym.

The Belfast Asylum.

From the memorandum of inspection by Sir G. P. O'Farrell, M.D. Dub., laid before the board of management at a meeting held on Feb. 9th, I find that it is stated that nothing has as yet been done to provide suitable and sufficient hospital accommodation for cases needing special treatment owing to their mental or physical state; further, the inspector protests against the new infectious diseases hospital being so close to the Purdysburn Asylum, especially the small-pox block. The English Local Government Board requires that a small-pox hospital should not, among other things, be within half a mile, measured from boundary to boundary, of an institution such as at Purdysburn, where there will be a population in excess of 600. Now the small-pox huts which have been erected at Purdysburn are within 285 yards of the asylum. The asylum is much overcrowded. As matters now stand there are 741 inmates at Grosvenor-road, while there is a normal accommodation for only 440. It is evident that the asylum committee will have to create further accommodation at Purdysburn. The administration of the asylum by Dr. W. Graham (resident medical superintendent) is most favourably commented on by the inspector.

Feb. 10th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Investigation of Microbes in Effused Fluids.

AT the meeting of the Academy of Medicine held on Feb. 3rd M. Jousset gave an account of a very original method for the investigation and detection of microbes in effused fluids—as, for instance, in pleurisy, hydrarthrosis, and hydrocele. Hitherto microbes in these fluids have been difficult to detect and M. Jousset has devised the following method. He collects some of the fluid and allows it to coagulate, during which process the microbes are imprisoned in the meshes of the clot. The clot is then artificially digested and the resulting solution is centrifugated. M. Jousset has been able by this method to demonstrate the bacillus of Koch in 24 out of 25 cases of pleurisy and also in certain cases of ascites which had been attributed to hepatic cirrhosis.

Tuberculosis in the French Army.

M. Lemoine, Professor at Val de Grâce, basing his facts on an observation of 3000 cases, has shown that of soldiers reported as tuberculous after having joined their regiments 69 per cent. had a history of tuberculosis previously to their joining their corps. They did not, therefore, contract their tuberculosis in the army and he draws the conclusion that greater strictness should be exercised at the time of enrolment.

Infant Life Protection.

At a recent meeting of the Academy of Medicine M. Porak read the report of the committee on the hygiene of infancy. This report was at once an interesting commentary on the Loi Roussel and an inquiry into its method of working and its results. The efficacy of this Loi Roussel is to-day clearly shown. Everything goes to prove the correctness of this statement and of the generally expressed opinion of the medical profession. For instance, the infantile mortality in those departments which receive nurse-children from Paris has decreased within the last 20 years, while within the last 50 years the mortality in foundling hospitals (*Service des Enfants-Assistés*) has fallen from 60 per cent. to 21 per cent. All the same, within the period of from the end of the first month of life to the end of the first year, the mortality among nurse-children is still double that of the general mortality among infants of the same age. It would appear, then, that certain improvements might be made in the Loi Roussel, as for instance in the way of assuring gratuitous medical attendance for nurse-children and legal assistance for nurses, by reorganising medical inspection, by extending the provisions of the law to the children of nurses who have taken a place and who have handed over their own children to the care of a neighbour or to someone who takes them without payment, and, finally, by regulating the delivery of certificates and the keeping of the registers of service. The committee was not unanimous as to the interpretation and scope of clause 8 of the Loi Roussel, which clause imposes upon nurses who have taken a place as wet nurse that they should undertake to suckle the child for seven months. The committee says that an inquiry should be held into the advantages or disadvantages of this enactment. Recent statistics furnished by the Minister of the Interior show that 65 per cent. of the women confined in Paris cannot suckle their children, either on account of poverty, or because they have no milk, or for other reasons.

The Transmission of Syphilis made a Penal Offence.

The tribunal of the Seine has just delivered an important judgment. By this judgment the transmission of syphilis by persons knowing themselves to be affected, even though they do not wish to transmit the disease, comes under the category of injury inflicted on another and gives the victim the right to an indemnity. Already the law has condemned parents whose child infects a nurse with syphilis, but the direct transmission of syphilis through sexual relations considered as a wound for which an indemnity is payable comes under the purview of French law for the first time. The case in question was that of a man suffering from syphilis who had sexual intercourse with a girl, aged 16 years, who contracted the disease from him. She had previously been quite well and a virgin. The court condemned the man to pay 12,000 francs damages.

Feb. 10th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Cholera and the Tourist Season.

THERE is now no cholera in Egypt and it has been entirely absent for several weeks. I am obliged to mention this fact because the European papers have lately published a telegram stating that the French Government has now forbidden the annual pilgrimage to Mecca from Tunis because of the cholera in Egypt. This is obviously unnecessary, for most of the Tunisian pilgrims arrive at Port Said by sea and then go on to Jaffa through the Suez Canal. It is only a small proportion of them who laboriously walk along the North African coast or who elect to land from the sea at Alexandria. But we often notice that Egypt pays the penalty of her honest declaration of bulletins of any epidemic disease by being accused of suffering from that disease when it is no longer present. The season began badly and even now there are not so many visitors here as there usually are at the end of January. But as some of the hotels are already full no one has a right to grumble. The *Commonwealth*, belonging to the Dominion Line, has lately arrived with 100 Americans from Boston *viâ* Gibraltar, Genoa, and Naples.

Dysentery.

At the Medical Congress here Dr. Kartulis of Alexandria was chosen to open a discussion on Dysentery with reference, of course, to its connexion with abscess of the liver. He is a well-known exponent of the amœbic theory and his experiments by injecting pus from a liver abscess into the rectum of healthy cats and thereby producing dysentery are recorded in all text-books. He still believes that amœbæ are the only cause of tropical dysentery, that tropical abscess of the liver is three times out of four caused by amœbic dysentery, and that non-dysenteric abscess of the liver met with in the tropics is chiefly caused by intestinal lesions, a few exceptional cases only being pyæmic; also that alcohol and malaria produce hepatitis and thus predispose to abscess without being the direct cause. Dr. Kartulis quoted 1860 cases of dysentery reported from India by different observers, of which 420 had abscess of the liver, and he contrasted with them 1896 cases of epidemic dysentery reported from Europe, among which there were only 28 cases of abscess of the liver. His own figures, collected over many years, give 164 cases of abscess, of which 95 had a previous history of dysentery, 17 others were alcoholic, 25 had some unknown cause, two were caused by wounds of the liver, and the remainder had a history of vague enteritis some of which may have been dysenteric. He pointed out that nobody knows yet the nature of pilgrim diarrhœa or of that of Indo-China, but that otherwise the dysentery of the world seemed to be divided into the tropical or amœbic form and into the epidemic variety characterised by the presence of the bacillus discovered in 1897 in Japan by Shiga and confirmed later by Kruse in Germany. Dr. Kartulis firmly believes that suppuration of the liver is produced, not by the amœbæ, but by pyogenic microbes such as the staphylococcus albus or the staphylococcus aureus. It is, of course, impossible to prevent as yet the occurrence of dysentery, but it seems possible to prevent a dysenteric case from developing later into hepatic abscess. In hospital and private practice numerous instances are seen of treated dysentery not being followed in after years by hepatic abscess, and, on the other hand, cases of hepatic abscess that are met with are almost always due to dysentery neglected or improperly treated. Dr. Kartulis denounces the so-called specific treatment by ipecacuanha or calomel and has but scanty faith in aperients. He maintains that dysentery is a local disease and ought therefore to be treated locally. Directly he is called to a patient he prescribes two tepid enemata of a watery solution of tannin (1 in 200), and this he believes to be the essential treatment for amœbic dysentery and to prevent the formation of hepatic abscess. Dr. Legrand (Alexandria) read a paper on the merits of Kosam which he has used in 30 cases of dysentery during the last two years. It is a seed coming

from a shrub of the family of Simarubaceæ discovered by Dr. Mougeot, the prison medical officer at Saigon. It must be given in large doses, is equally useful for the acute and chronic form, but is of no value for diarrhœa which is not truly dysenteric. In addition to kosam by the mouth enemata of antipyrin and laudanum are also given to overcome the tenesmus. Dr. Métin (Director of the Pasteur Institute at Saigon) claimed to have discovered that the specific cause of dysentery in Cochin China is a cocco-bacillus which resembles most the microbe of plague. It is not reproduced by spores, a temperature of 140° F. kills it in two hours, while at boiling point it dies in a few minutes; also antiseptics kill it with ease, and perchloride of mercury (1 in 2000) stops its growth. Rabbits are killed by it in 12 or 18 hours, their axillary and inguinal glands are swollen, and in the peritoneum and pericardium is found bloody serum which is practically a pure culture of the cocco-bacillus. The animal's intestines are red and distended by gas and by bloody fluid mixed with normal fæces. But there is apparently no ulceration of the intestines. The lungs and spleen are apparently healthy, the liver is hyperæmic but of normal size, while all the organs, specially the liver, contain hundreds of cocco-bacilli. Dr. Métin has never found his bacillus in the air or in the soil, but he has often discovered it in the water, where it is most easily found during the dysentery season. He ended his paper by stating that he had sent to Dr. Roux of the Pasteur Institute in Paris cultures of the bacillus which he claims to have discovered in March, 1901. Professor Chantemesse (Paris) stated that in 1888 he and Dr. Widal, while performing necropsies upon soldiers who had returned from Tonkin, had discovered a bacillus which he had now been able to identify with that now known by the name of Shiga's. Dr. Belleli (Port Said) read a paper recommending large enemata as the best treatment of dysentery. The injection he prefers in acute dysentery is two pints of water containing from 25 to 40 drops of carbolic acid, while in chronic cases he uses the same injection with the addition of tannic acid and laudanum. Dr. Pressat (Ismailia) also said that he believed chiefly in treatment by enemata and he recommended large injections with a solution of chloral of from 5 to 10 per 1000. He stated that this was sufficient to bring about recovery provided that the diet was carefully limited and he had never seen any symptoms of chloral poisoning.

Cairo, Feb. 4th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

National Sanatorium Association.

THE annual meeting of the board of trustees of the National Sanatorium Association was held recently in Toronto, with the Vice-President, Sir William Meredith, Chief Justice of Ontario, in the chair. The annual report of the Muskoka Cottage Sanatorium was submitted by the physician in charge, Dr. J. H. Elliott. It showed that during the five years' history of the institution 612 cases of consumption had been treated and that during the past official year 85 per cent. of the cases treated had been cured or the disease arrested. 90 cases were treated at the Free Hospital for Consumptives, Muskoka, during the first five months of its existence. Of the 90 patients 50 came from Toronto and the balance from other parts of the province of Ontario and the Dominion. The announcement was made by the secretary of the association that a fine site for a third institution was already purchased near Toronto and that a citizen of this city had promised to contribute $25,000 towards the erection of the buildings. The association also has in contemplation the establishing of a fourth sanatorium in the near future on the Pacific coast.

Annual Report of the Sick Children's Hospital, Toronto.

The twenty-seventh annual report of the Sick Children's Hospital, Toronto, shows that during the past official year 5373 patients were treated. Of these 749 were in-patients and 4624 were out-patients. Of the in-patients 520 were free patients who were in the hospital 28,131 days, thus showing that 70 per cent. of the entire number were unable to pay for hospital treatment. There were 128 patients in residence at the beginning of the official year, 621 were received during the year, and 627 were discharged, leaving in the hospital on Sept. 30th, the end of the official year, 122 patients. The medical report shows that of the in-patients 447 were cured and 209 were improved and greatly benefited. There were 471 operations performed during the year. The cost of each patient per day was 88.11 cents. This hospital was closed to the admission of patients during the year owing to an outbreak of scarlet fever and diphtheria.

Canada's Drink Bill.

The annual report of the Canadian Inland Revenue Department shows that during the past official year 3,234,147 proof-gallons, as compared with 2,652,708 proof-gallons for the previous year, were produced in Canada. The people drank more spirits and beer than in the previous year, the quantity of spirits consumed being 0·796 gallon per head against 0·767 for the previous year. Beer is represented by 5·102, as against 4·737 for the previous year, and wine by 0·090 as compared with 0·100 for 1901. The consumption of tobacco was the same as in 1901. The number of cigarettes consumed last year was 134,236,034, as against 121,383,584 in 1901.

Montreal Contagious Diseases Hospital Question.

For over three years the city council of Montreal has had before it the question of the erection of a new hospital for cases of infectious and contagious disease. The trouble in failing to arrive at a definite plan for adoption during all that time has been that while certain members were in favour of one hospital there were others who considered that two hospitals, one for the Roman Catholic and one for the Protestant population, were desirable. It seems that a definite plan has at last been decided on. The council has proposed to the Notre Dame Hospital, representing the French element of the city, and to either the General Hospital or the Royal Victoria Hospital, representing the English portion of the population, that it would give $15,000 a year each to these institutions if they would care for the cases of contagious disease arising in the city, the contract to extend over a period of 25 years. The board of governors of Notre Dame Hospital has accepted the offer for that institution, and it is understood that one of the two English hospitals will shortly follow suit.

The New Professor of Hygiene at McGill University, Montreal.

The annual university lecture of McGill University was delivered on the afternoon of Jan. 23rd by Dr. T. A. Starkey, the newly-appointed professor of hygiene, who a few weeks ago came over from London University to succeed the late Dr. Wyatt Johnston in the chair of hygiene. Professor Starkey in introducing the subject of his lecture "Hygiene" referred at some length to the work which the late professor had done both outside and in connexion with McGill University. He spoke of the research which Dr. Johnston had instituted in connexion with bacteria in milk and in water as well as of his work in connexion with medico-legal matters, his work on accident assurance—compensation and adjudication—being invaluable. Professor Starkey considers that social progress, general enlightenment, and constitutional freedom have added a great deal to hygienic reform.

The Health of Victoria, British Columbia.

The annual report of the medical officer of health of Victoria, British Columbia, shows that during the past 12 months that city has enjoyed good health. At no time was there any tendency to an outbreak of any contagious or infectious disease. During the year there were 83 cases of diphtheria, with three deaths, and 48 cases of scarlet fever, with no deaths. There was only one case of small-pox during the year. Knowing that bubonic plague is present in San Francisco the medical officer of health of Victoria has taken every precaution to prevent its introduction into Victoria, and in this respect his efforts have been assisted by the strict quarantine system of the Canadian Government. In 1901 the death-rate in Victoria was 12·33 per 1000; last year it decreased to 10·09 per 1000.

Feb. 4th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

An Institution for the Study, Prevention, and Treatment of Tuberculosis in Philadelphia.

THE announcement was made some three weeks ago that Mr. Henry Phipps of New York intended to establish in Philadelphia an institute for the above purposes. It is proposed to erect buildings in the centre of the city, in the midst of the poor neighbourhood, at a cost of from $200,000 to $300,000 (from £40,000 to £60,000). An endowment of $1,000,000 (£200,000) will also be provided, yielding an annual income of $40,000 (£8000). The institute will be known as the Phipps Institute and is intended to be a centre for the distribution of knowledge concerning tuberculosis, with the object of checking its spread. There will be an administration building containing a Finsen light department, a hydro-therapeutic department, with baths and electric appliances, and also pavilions with a capacity of 100 beds for the treatment of advanced cases of pulmonary tuberculosis. There will be also a dispensary for the treatment of "walking cases" from which assistance will be given to poor tuberculous patients in their own homes and a general supervision will be kept over them for the purpose of instructing them in methods of preventing the spread of the disease. It was intended to begin the work at once in a temporary building rented for the purpose, but an obstacle has arisen in a Pennsylvania law which restricts the erection of hospitals in certain parts of any city in that State. If the Bill for the repeal of the law is defeated in the Legislature the institution will be established in a poor district of New York city.

The New Maternity Hospital in New York City.

The Society of the Lying in Hospital of New York, which was presented with a magnificent new building some months ago by Mr. J. Pierpont Morgan, has recently issued its annual report. It is stated in this report that the hospital was opened for the admission of patients eight months ago, since which time 1278 women have applied for indoor treatment. Owing, however, to lack of funds only one ward of 62 beds has been available for this purpose. The building contains 186 beds, so that just one-third of them are being used. New York is badly supplied with accommodation for poor pregnant women, the total capacity of such institutions in the city being less than 600 beds. For the year ending Sept. 30th, 1902, the number of births in the borough of Manhattan, according to the official returns of the Health Department, amounted to 51,665, showing that on an average one child was born every 10 minutes. The statistics of the society during the past year showed a large increase in the number of cases over those attended in the course of the preceding year, the applicants being 4815, an increase of 1058. Of this number 878 were admitted into the hospital. The total amount of money expended was $78,659 (£15,731). The report calls attention to the fact that the number of cases treated in the out-door departments of the society was less than a year ago, while the number of applicants was very much larger. The report lays special stress upon the need of a sufficient endowment to enable the new hospital to perform a vast work of good among the destitute poor of New York city.

Feb. 4th.

Obituary.

JOHN WEBB WATKINS, M.D. EDIN., M.R.C.S. ENG.

DR. WATKINS of Kirkby, Newton-le-Willows, Lancashire, who died somewhat unexpectedly on Jan. 30th, had at various times occupied important positions. He was born at Towcester, Northamptonshire, in May, 1833, and came of a medical family, his father, Mr. Thomas Watkins, and his grandfather, Mr. Timothy Watkins, having been surgeons practising in that place. He studied medicine at University College, London, and at Edinburgh University, becoming qualified as M.R.C.S. Eng. in 1855 and graduating as M.D. at Edinburgh in 1856. In the early part of his career, we have been informed, he was a prominent figure in an episode of the first interest in medical history. While he was a student at Edinburgh the anæsthetic properties of chloroform were discovered by Sir James Simpson, and Dr. Watkins, who offered himself for the purpose of the experiment, was the first person to whom he administered it. Dr. Watkins took so much interest in the question that he chose Anæsthesia in Natural and Morbid Parturition as the subject of his graduation thesis. On entering professional life he at first spent some time in Towcester, assisting his elder brother. In 1857 he settled in Newton-le-Willows and practised there up to the time of his death. He held a variety of appointments, including those of medical officer of health, certifying factory surgeon, medical officer to the post-office, and several others. In 1887–88 he was president of the Lancashire and Cheshire Branch of the British Medical Association. He was honorary surgeon to the local volunteer force, attained the rank of surgeon-major, and on retiring after being 20 years with the battalion he received the volunteer decoration for long service. He took a great interest in educational and Church work and was for a long period a member of many Liverpool diocesan committees, from which he was selected by the late and present Bishops of Liverpool to be a representative in the House of Laymen in York. Dr. Watkins was a widower and has left a large family. Three of the sons are following their father's profession. The funeral took place at Newton Cemetery on Feb. 3rd.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the First Examination of the Board at the January quarterly meeting of the examiners in the subjects indicated:—

Part I. Chemistry.—William Seaforth Alderson, Firth College, Sheffield, and Bradford Technical College; Robert Nicholas William Biddulph, University College, Bristol; John William Bintcliffe, Owens College, Manchester; Charles Walter Gordon Bryan, St. Mary's Hospital; Arthur Grey Hesilrige Buckby, Guy's Hospital; Martin Binns Studer Button, London Hospital; Percy John Chissell, Middlesex Hospital; Howard Dennis Clapham, Birkbeck Institute; William Warner Cook and Maurice Mason Earle, Guy's Hospital; Gilbert Henry Dive, St. Bartholomew's Hospital; Leonard Edwards, London Hospital; Robert Eyton-Jones, University College, Liverpool, John Stewart Farnfield, L.D.S.Eng., Guy's Hospital; Eric Worsley Gandy, Cambridge University and Westminster Hospital; Harold Gibson, London Hospital; Henry Granger, St. Thomas's Hospital; Gilbert Egerton Green, University College, Liverpool; Stanley Gordon Greene, St Bartholomew's Hospital; Morrice Greer, University College, Liverpool; John Gladstone Ivers, Owens College, Manchester; Thomas Robert Lloyd Jones, London Hospital; Arthur Rieussett Littlejohn, St. Mary's Hospital; Thomas Fletcher Lumb, Cambridge University and Polytechnic Institute; Richard Hugh McGillycuddy, University College, London; William Beare Martin, Owens College, Manchester; Claude Harry Mills, Guy's Hospital; John Morris, Middlesex Hospital; Charles Henry Lambert Petch, St. Thomas's Hospital; John Lawson Rankine, Guy's Hospital; James Stanley Robertson, London Hospital; James Anderson Somerville, Owens College, Manchester; Richard Easington Stevens, University College, London; Wilfred Percy Tindal-Atkinson, St. Thomas's Hospital; Ernest Guy Treharne, University College, Cardiff; Harold Thomsett Treves, St. Thomas's Hospital; and Lancelot Craven Wilkinson, St. Bartholomew's Hospital.

Part II. Practical Pharmacy.—James Armstrong, University of New Zealand and University College, London; John Aylen, St. George's Hospital; Herbert Owen Marsh Beadnell, Guy's Hospital; Ernest John Hamilton Bowen, London Hospital; James Richard Alexander Clark Hall and Armin Gascoigne Vavasaur Elder, St. George's Hospital; Ralph Crompton, Owens College, Manchester; Trevor Evans, Glasgow University and London Hospital; Frank Forrest, Owens College, Manchester; Lennard William Forsyth, Cambridge University and Middlesex Hospital; Edward Slade Goss, University College, Bristol; Major Greenwood, London Hospital; William Edwin Haigh, private study; Reginald Henry Hardwick, St. Thomas's Hospital; Dudley Raymond Harris and James Clarence Ledeat Kingston, Middlesex Hospital; Frederick Field Lawrence How, Edinburgh University and University College, London; Hector Lionel Howell, Charing Cross Hospital; William James Deacon Inness, St. Mary's Hospital; John Speechly Le Fevre, University of Sydney and London Hospital; Frederick Boulton Lowe, Guy's Hospital; John Macarthur, St. Mary's Hospital; Philip Jauvrain Marett, Westminster Hospital;

Edward Pigott Minett and John Orrett Musson, Guy's Hospital; Clayton Conyers Morrell, University College, Liverpool, and London Hospital; Joseph Clement Arthur Norman, London Hospital; Max Onslow Ford, St. Bartholomew's Hospital; Arthur Robert Phelps, Cambridge University and St. Thomas's Hospital; George Meredith Sanderson, London Hospital; Frank Montague Wilson South, Westminster Hospital; William Arthur Tatchell, London Hospital; Louis Clifford Thompson, University College, London; Frederick Herbert Wallace, Guy's Hospital; and Howard Francis Warner, London Hospital.

Part III. Elementary Biology.—Edward Morison Adam, Charing Cross Hospital; William Seaforth Alderson, Bradford Technical College; Richard Clayton Allen, Mason College, Birmingham; Sealy Highmore Andrews, B.A. Camb., St. Bartholomew's Hospital; Allan Angell, Guy's Hospital; Raymond Ebenezer Apperly, Middlesex Hospital; Thomas Herbert Cecil Benians and Arthur James Brown, London Hospital; Josiah Browne and Gordon Comyn, King's College Hospital; Joseph Aloysius Byrne, Owens College, Manchester; William Warner Cook, Guy's Hospital; Gilbert Henry Dive, St. Bartholomew's Hospital; Frederick Dunphy, Westminster Hospital; James Butler Fairclough, Yorkshire College, Leeds; Hugh Galloway, Westminster Hospital; James Randolph Gyllencreutz and Francis Bryan Hicks, St. Thomas's Hospital; Christian Frederick Louis Leipoldt, Guy's Hospital; Thomas Robert Lloyd Jones, Walter Everard Lloyd, and Ernest MacEwan, London Hospital; Philip Walter Mathew, Middlesex Hospital; Mahmoud Maher, Cairo and Guy's Hospital; John Morris, City of London College; Lionel Alexander Burke Moore, Guy's Hospital; Reginald Mugliston, London Hospital; Rowland Mabbatt Peake, Middlesex Hospital; Charles Henry Lambert Petch, St. Thomas's Hospital; William Joseph Petty, University College, Cardiff; William Padget Pinder, Yorkshire College, Leeds; James Stanley Robertson, London Hospital; Richard William Starkie, Owens College, Manchester; Leslie St. Vincent-Welch and Edward Leonard Taylor, St. Bartholomew's Hospital; Wilfrid Percy Tindal-Atkinson, St. Thomas's Hospital; and Aubrey Dean Vernon-Taylor and John Nuthall Watson, Guy's Hospital.

Anatomy and Physiology.—Evelyn Addison Wentworth Alleyne, St. Mary's Hospital; Richard Dunlop Barron, Otago University and Guy's Hospital; Frederick John Chanter Blackmore, University College, Sheffield; Stanley Leemore Brimblecombe, St. Mary's Hospital; John Frederick Broughton, University College, London; Norman Huthnance Bye, Durie Avery Chamberlain, B.A. Camb., and Samuel Barrett Couper, B.A. Camb., London Hospital; Cecil Ernest Clay, Yorkshire College, Leeds; Thomas Bonnor Davies, St. Bartholomew's Hospital; Arthur Hubert Davies, St. George's Hospital; Robert Davies Colley, B.A. Camb., Cambridge University; Horace Charlton Devas, St. Thomas's Hospital; Leslie Doudney, Guy's Hospital; Charles Horace John Fagan, B.A. Camb., St. George's Hospital; John Eugène Forman, London Hospital; William Edward Lindsay Fowler, St. Bartholomew's Hospital; Alexander Edward Gordon Fraser, St. Mary's Hospital; Henry Wyndham Gooden, University College, Bristol; Frederick William Goonetilleke, Licentiate Ceylon Medical College, King's College, London; Hugh Evelyn Goteiee, St. Thomas's Hospital; Alexander Savell Graham, Charing Cross Hospital; Raymond Sydney Harper, Guy's Hospital; John Hyde Iles, B.A. Camb., Cambridge University; Edwin Clark Jones, St. Thomas's Hospital; William Wilfred King, University College, Bristol; Charles Noble Le Brocq, B.A. Camb., Cambridge University and St. Bartholomew's Hospital; Malcolm Leckie, Guy's Hospital; William Lennox, University College, Bristol; Thomas St. Leger Leyshon, London Hospital; Albert Lawrence Loughborough, St. Thomas's Hospital; Mahmoud Maher, Cairo and Guy's Hospital; Edward Cronin Lowe, Herbert Cecil Malleson, Brian Bentley Metcalfe, Thomas Norman, Edgar Lionel Robert Norton, Guy's Hospital; Carlos Bernabel Mara and Ernest William Mynall Paine, St. Bartholomew's Hospital; Henry Sandford Ollerhead, St. Mary's Hospital; Felix William Parfitt, Guy's Hospital; Benjamin James Phillips, University College, Cardiff; Ernest Dudley Richardson, St. Mary's Hospital; Thomas Rowland Roberts and Louis Philip Sanders, London Hospital; James Edmund Smith, St. Bartholomew's Hospital; Evelyn Charles Sprawson, L.D.S., R.C.S. Eng., and James Leonard Octavia Tilley, L.D.S. Eng., Charing Cross Hospital; William Hugh Raymond Streathfield, B.A. Camb., St. George's Hospital; Arthur John Turner, London Hospital; John Grandison Watkins, St. Bartholomew's Hospital; Edward Denis Whittle, University College, London; Edward Wight, Cambridge University; Henry Findon Wight, Guy's Hospital; Cyril Oswald Oxford Williams, Everard Lister Wright, and Harold Nairne Wright, St. Bartholomew's Hospital; and Archibald Paterson Wright, University College, Liverpool.

Anatomy only.—Arthur Frank Palmer, Cambridge University and Middlesex Hospital

Physiology only.—Norman Henry Oliver, Guy's Hospital.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND ROYAL COLLEGE OF SURGEONS IN IRELAND.

—At the examination for the Diploma in Public Health the following candidates passed:—

W. H. Hornibrook, L.R.C.P. & S. Irel.; J. M. Keegan, M.A., M.B., B.Ch. R.U.I.; J. McLiesh, M.B., B.Ch., R.U.I.; J. B. Stephenson, M.D. Durh.

TRINITY COLLEGE, DUBLIN.

—At examinations held recently the following candidates were successful:—

PREVIOUS MEDICAL EXAMINATION.

Anatomy and Institutes of Medicine.—Robert A. Askins, Cecil Scaife, and John B. B. Whelan.

Physics and Chemistry.—Henry H. A. Emerson, Joseph C. A. Ridgway, Joseph E. N. Ryan, William E. M. Armstrong, Cyril H. M'Comas, and John Murdoch.

Botany and Zoology.—Thomas P. Dowley, William M. Johnston, William H. Kennedy, Charles Ff. Rolleston, and James G. M. Moloney.

LITERARY INTELLIGENCE.

—His Majesty the King and His Royal Highness the Prince of Wales have graciously been pleased to accept copies of the first Prize Essay for the Erection of "The King Edward VII. Sanatorium" for the Treatment of Tuberculosis, by Arthur Latham, M.A., M.D. Oxon., M.A. Cantab., assistant physician at St. George's Hospital and to the Brompton Hospital for Consumption, in association with A. William West, architect. —A new edition of "The Uniform System of Accounts for Hospitals and Institutions," by Sir Henry Burdett, K.C.B., will shortly be issued by the Scientific Press, Limited.

BIRMINGHAM GENERAL HOSPITAL.

—A rare cause of death occurring from the administration of nitrous oxide gas happened at the above hospital on Jan. 28th to a man, aged 33 years. At the inquest it was stated that the patient had an enlarged gland in his neck which was probably connected with the presence of some bad teeth. The gas was administered by the house surgeon from a cylinder in the ordinary way. When the dentist had extracted one of three teeth the man became blue and asphyxiated and in spite of prompt treatment he never rallied. His chest had been specially examined beforehand and his breathing was stated to have been quite clear. It is not a common result, fortunately, for such an event to occur and the confidence in the use of gas need not be unnecessarily shaken.

BOOKS, ETC., RECEIVED.

ASSOCIATION OF AMERICAN PHYSICIANS (Dr. Henry Hun, Secretary, 149, Washington Avenue, Albany, N.Y.)

Transactions of the Association of American Physicians. Seventeenth session, held at Washington, D.C., April 29 and 30, 1902. Volume xvii. Price not stated.

BAILLIÈRE, J. B., et Fils, 19, Rue Hautefeuille, Paris.

Chirurgie Intestinale d'Urgence. Par Albert Mouchet, Chef de Clinique Chirurgicale à la Faculté de Médicine de Paris. ("Actualités Médicales" series). Price 1 fr. 50.

BROWNE, T. B., LIMITED, 163, Queen Victoria-street, E.C.

An Epitome of Useful Information relating to Trade Marks, Letters Patent, Designs, Copyright, and the Use of the Royal Arms. Price 2s. 6d.

CASSELL AND CO., LIMITED, London, Paris, New York, and Melbourne.

Diseases of Women. A Clinical Guide to their Diagnosis and Treatment. By George Ernest Herman, M.B. Lond., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, the London Hospital. Revised edition. Price 25s.

GOVERNMENT PRINTING OFFICE, Washington.

Index Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second series. Vol. vii., Hernia-Inquiry. Price not stated.

JOHN BULL PRESS, Limited, 5, Henrietta-street, Covent-garden, W.C.

John Bull's Year-Book for 1903. A Merry Manual full of Facts and Fancies, Grave and Gay. Edited by Arthur à Beckett. Price 1s.

KIMPTON, HENRY, 13, Furnival-street, Holborn, E.C.

A Text-book of Anatomy. By American Authors. Edited by Frederic Henry Gerrish, M.D., Professor of Anatomy in the Medical School of Maine, Bowdoin College. Second edition, revised and enlarged. Price 32s. net.

LIPPINCOTT, J. B., COMPANY, 5, Henrietta-street, Covent-garden, W.C.

International Clinics. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U.S.A. Vol. iv. Twelfth series. 1903. Price not stated.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C.

Human Personality and its Survival of Bodily Death. By Frederic W. H. Myers. In two volumes. Price 42s. net.

MARLBOROUGH, E., AND CO., 51, Old Bailey, E.C.

Hindustani Grammar Self-taught. By Capt. C. A. Thimm. Price 2s.; bound in cloth, 2s. 6d.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton-street, Strand, W.C.

The Nurse in Hot Climates. Revised and reprinted from the *Hospital Journal*. By Edward Henderson, M.D., F.R.C.S. Edin., late of Shanghai, China. Price 1s. net.

STOCK, ELLIOT, 62, Paternoster-row, E.C.

What a Piece of Work is Man, with Christian Evidences. By Frederick James Gant, F.R.C.S., Consulting Surgeon to the Royal Free Hospital. Price 2s 6d.

STUBER, A. (C. KABITZ-SCH), Würzburg.
Die physikalisch-diätetische Therapie in der ärztlichen Praxis. Von Dr. med. Bernhard Presch, Arzt in Hannover. Lieferung IV. Price M.2.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ANDERSON, WILLIAM, M.B., B.Ch., has been appointed Second House Surgeon to the Royal London Ophthalmic Hospital.

AUDRY, WALTER ROBERT, M.B. Durh., M.R.C.S., has been re-appointed Medical Officer to the Berkeley (Glos.) Hospital.

BATTEN, RAYNER WINTERBOTHAM, M.D., F.R.C.P. Lond., M.R.C.S., J.P., has been appointed Consulting Physician to the Berkeley (Glos.) Hospital.

BERKELEY, AUGUSTUS FREDERICK MILLARD, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Sixth District and Public Vaccinator for the Third Rural District by the Bath Board of Guardians, vice Mr. J. A. M. Thomson, resigned.

BONAR, THOMAS MITCHELL, M.B., C.M. Glasg., has been appointed Medical Officer for the Tregoney and Probus Districts by the Truro Board of Guardians.

BRYAN, FRANK, B.C. Cantab., has been appointed House Physician to the Derbyshire Royal Infirmary.

CAMPBELL, COLIN A., M.D. Toronto, has been appointed Third House Surgeon to the Royal London Ophthalmic Hospital.

DOW, W. B., M.D. St. And., F.R.C.S. Edin., has been appointed a Medical Referee under the Workmen's Compensation Act, 1897, for the Sheriffdom of Fife and Kinross, to act for the district of Dunfermline with Kinross.

FRASER, C. L., F.R.C.P., F.R.C.S. Edin., has been appointed Certifying Surgeon under the Factory Act for the Berwick-on-Tweed District.

HOPE, C. M., M.B., Ch.B. Glasg., has been appointed House Surgeon to the Derbyshire Royal Infirmary.

INMAN, WILLIAM S., M.B. Lond., L.S.A., has been appointed Senior House Surgeon to the Royal London Ophthalmic Hospital.

MYERS, A. A., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Sugeon to the Derbyshire Royal Infirmary.

OSBORN, E. C., L.R.C.P. Lond., has been appointed Medical Officer of the Union Schools at Mitcham.

SAVAGE, G. H., M.D. Lond., F.R.C.P. Lond., has been appointed Consulting Physician in Mental Diseases to Guy's Hospital.

TARGETT, J. H., M.S. Lond., F.R.C.S. Eng., has been appointed Obstetric Surgeon to Guy's Hospital.

WALLACE, ARTHUR J., M.D. Edin., has been appointed Surgeon to the Hospital for Women, Liverpool.

WETHERED, ERNEST, M.B. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Derbyshire Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AUCKLAND RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary £300 per annum.

BIRMINGHAM CORPORATION WATERWORKS HOSPITAL, Elan Valley, Radnorshire.—Resident Surgeon. Salary £250 per annum, with board and lodging. Also Resident Medical Officer. Salary £300 per annum, with board, lodging, and drugs.

BIRMINGHAM GENERAL HOSPITAL.—Honorary Obstetric Officer.

BURY INFIRMARY.—Junior House Surgeon. Salary £90, with board, residence, and attendance.

CARDIFF, UNIVERSITY COLLEGE.—Bacteriologist to the Joint Committee of the Glamorgan County Council and Cardiff Corporation and Lecturer in Bacteriology in the University College, Cardiff. Salary £300 a year.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, lodging, and laundry.

DORSET COUNTY HOSPITAL, Dorchester.—House Surgeon, unmarried. Salary £100, with board and residence.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Medical Officer for the Casualty Department for six months, renewable. Salary at rate of £100 per annum, with luncheon. Also House Surgeon for six months, with board and residence. Honorarium of £25.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Two Physicians to Out-patients.

FARNBOROUGH URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £60 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Clinical Pathologist and Bacteriologist. Honorarium 50 guineas. Also House Physician, unmarried, for six months. Salary £20, with board and residence.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £75 per annum, with residence, board, and washing.

KENT COUNTY ASYLUM, Barming-heath, Maidstone.—Fourth Assistant Medical Officer, unmarried. Salary £175 per annum, rising to £200, with residence, attendance, &c.

MANCHESTER OWENS COLLEGE.—Junior Demonstrator in Physiology. Stipend £100, rising to £150 per annum.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.—Lecturer on Physiology.

NEWCASTLE-ON-TYNE DISPENSARY.—Two Visiting Medical Assistants. Salary £160.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—House Physician. Salary £100, with board and apartments.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, N.E.—Assistant Physician.

ROTHERHAM HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £110 per annum, with rooms, commons, and washing.

ROYAL DENTAL HOSPITAL OF LONDON, Leicester-square, W.C.—Curatorship to the Pupils' Mechanical Department. Salary £200 per annum, increasing to £300. Also two Demonstrators, with salaries of £200 and £100 per annum respectively.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Assistant House Surgeon. Salary £75, with board, residence, and laundry.

STOCKPORT INFIRMARY.—House Surgeon. Salary at rate of £100 per annum, with board, washing, and residence.

ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion-square, W.C.—Honorary Assistant Surgeon.

TORQUAY, BOROUGH OF.—Medical Officer of Health. Salary £400 per annum, rising to £500.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Surgeon.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Physician for six months. Honorarium at rate of £75 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

BARRETT.—On Feb. 8th, at Iver, Bucks, the wife of E. Howard Barrett, M.B. Durh., of a daughter.

CRAWSHAW.—The wife of J. H. Crawshaw, L.S.A. Lond., Midland View, Elsecar, of a daughter (still-born).

TURNER.—On Feb. 6th, at Plympton House, Plympton, South Devon, the wife of Alfred Turner, M.D. Edin., of a daughter.

MARRIAGE.

MARSHALL—HIGGINSON.—On Feb. 4th, at St. Jude's Church, South Kensington, by the Rev. Salter St. George John Hartley, M.A., vicar of Exton, Rutland, assisted by the Rev. William Millar, M.A., vicar of Tillingham, Essex, and the Rev. Prebendary Eardley Wilmot, M.A., vicar of the parish, Thomas Bingham Marshall, M.R.C.S., L.R.C.P., of The Limes, Tillingham, Essex, elder son of the late Thomas Alexander Marshall, to Ruth Forbes, youngest daughter of Arthur Higginson, of 46, Penywern-road, South Kensington.

DEATHS.

BRAKE.—On Feb. 8th, at San Remo, Craneswater-park, Southsea, Surgeon-General Brake, late I.M.S., aged 75.

SHARP.—On Feb. 9th, at the Royal Victoria Hospital, Hull, Ellen Mary Sharp, M.B. Lond., House Surgeon to the hospital, aged 28 years.

WATKINS.—On the 30th Jan., at Kirkby, Newton-le-Willows, suddenly, John Webb Watkins, M.D., aged 69.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

AT a recent inquest in circumstances which we have already described, a censure was passed upon a medical man in his absence, the absence having been explained to Mr. Troutbeck in a letter which Mr. Troutbeck, according to the reports in the press, described as impertinent. The writer of the letter, Mr. Ernest R. Badcock, says that this description of his letter may do him professional damage and asks us to publish it that his colleagues may judge of it. Here it is:—

SIR,—I cannot allow to pass, without protest, your misguided action towards me, with regard to the inquest on the body of the child Harvey.

Surely it is of importance in the interests of justice that the medical man who is first called to the case be called at the inquest.

It was a frequent question of your much respected predecessor, the late Mr. Braxton Hicks, "And, doctor, what do you know of the character of these people?" How is it possible that a stranger coming in can further the ends of justice in this way, however much he may be able to teach the general medical practitioner about his work?

I must apologise for using this paper; it is the only writing paper I find available at the moment.

I am, Sir, your obedient servant,

ERNEST R. BADCOCK.

Mr. Coroner Troutbeck, Town Hall, Wandsworth.

We cannot see any impertinence in the above letter. Mr. Badcock, like ourselves, considers Mr. Troutbeck's procedures in the matter of medical evidence wrong. Mr. Badcock was absent from the inquest because he did not receive a subpœna and we think that he was quite right to absent himself for that reason. If medical evidence is required it should be obtained in the proper way. Medical men must not give medical evidence to a coroner's officer for him to repeat, probably incorrectly and certainly unintelligently, to a jury. That way leads to failure of justice. Nor should medical men be compelled to attend inquests without a subpœna so as to protect themselves from misrepresentation, possibly of a damaging nature. We have reason to know that Mr. Troutbeck repudiates very strongly the idea that he is acting in opposition to, or in a contemptuous way towards, the medical profession. We hope that he will tell his juries that no medical man need attend an inquest unless he is properly summoned, and that no imputation rests on his character if he refuses to give medical evidence save under subpœna. Mr. Badcock has, we think, been treated with distinct hardship.

We continue to receive letters similar to the one that follows and we trust that the matter will be brought properly to the attention of the London County Council:—

To the Editors of THE LANCET.

SIRS,—Regarding the innovation in procedure which has been sprung upon the medical profession and the general public by Mr. Troutbeck, will you allow me to draw attention to the fact that even eminent pathologists are not always able to account for death after opening and examining a body? The fullest proof of death from natural causes is afforded by the evidence of the medical attendant concerning the nature and symptoms of the illness as he has observed them before death *plus* the evidence of this same observer, or another pathologist assisting him, concerning what is found internally and externally after death. Neither the one part of evidence nor the other can ever equal the two together. A pathologist, however eminent he may be, should never determine the natural cause of death before a jury if there has been a medical attendant in the case. The latter should determine, being assisted by another pathologist when desirable, whose only duty it should be to present facts and figures regarding what he finds.

This innovation, introduced by Mr. Troutbeck, is one of very great importance to the medical profession and the general public, for other municipal councils may be induced to advocate the adoption of the same procedure.

I am, Sirs, yours faithfully,

Surbiton, Jan. 31st, 1903. HAYDN BROWN.

EMPLASTRUM BELLADONNÆ (?).

To the Editors of THE LANCET.

SIRS,—Some months ago two cases came to my notice where emplastrum belladonnæ (labeled as such) produced distinct blistering. In one case I saw the blister myself and I would have said it was due to cantharides. In the other case I saw the pigmented scar and on inquiry I found that there had been marked blistering. I had the curiosity to inquire who were the makers of the plasters and I found that both were made by the same firm but sold by different druggists. One of these to whom I mentioned the matter wrote to the makers and they replied that strong belladonna plaster sometimes produced blistering. I have never seen anything more severe than slight irritation from the application of a belladonna plaster. I would like to elicit any information as to whether other practitioners have had a similar experience. A blister 6 × 10 inches is rather an unpleasant result of the application of a belladonna plaster for the relief of pain in the back.

I am, Sirs, yours faithfully,

Jan. 28th, 1903. B. R.

PATENT HYGIENIC UNDERWEAR.

WE have received specimens of underclothing invented by a foreign medical man, Dr. Rasurel. The materials of which the clothing is made are wool and peat fibre. This fibre is very absorbent and possesses antiseptic properties. The clothing is supplied either in the natural greyish-brown colour or bleached. It makes a warm and singularly light garment even in the thickest qualities. The seams are very carefully turned so that there are no rough edges, and from a personal trial we can say that the garments are comfortable and that no shrinking is apparent, at least after one washing, although no woollen fabric will stand the manipulations, or rather the machinations, of a London washerwoman for long. The clothing can be obtained by application to Mr. H. Clauzier, 105-107, Wood-street, London, E.C.

THE FUNCTIONS OF A PARISH NURSE.

WE have received a circular dealing with the appointment of a parish nurse for the parish of All Saints, Wyke Regis. The nurse is apparently under the control of a benefit nursing club to which the medical adviser is stated to be Dr. Moore. Among the rules of the nursing club as given in the circular the first one reads as follows:—"The nurse will be qualified to attend ordinary cases of illness and confinements, but must not attend infectious cases." Other rules state that there will be no fees for attendance except in the case of confinements, and for the latter a fee of 7*s.* 6*d.* is paid. For this charge (says Rule 4) "the nurse will confine the mother and attend her and the baby twice a day for 10 days. Whenever necessary the nurse shall call in the doctor at the time of confinement. In the case of the wives of labourers and artisans this doctor's fee will be paid by the nursing club." With regard to Rule 1, stating that the nurse will be qualified to attend ordinary cases of illness, we wrote to the secretary to inquire whether or not the nurse had a registrable medical qualification, and we received the following answer: "The nurse attached to the Wyke Regis Benefit Nursing Club has a medical qualification for nursing." We presume this means that the lady in question holds the certificate of the Obstetrical Society of London, which of course, is no qualification of any kind. We have no doubt that a parish nurse is a most useful official, but we cannot think it right that any persons should be at liberty to apply for her services except with the leave, and at the direct instigation, of their medical attendant. It seems to us that Rule 1—viz., "The nurse will be qualified to attend ordinary cases of illness"—simply means that the nurse is an unqualified medical practitioner; and we shall be glad if the committee or the medical adviser to the club will inform us what are considered to be ordinary cases of illness and in what manner the nurse is qualified to attend such cases.

CITRATE OF CAFFEIN.

To the Editors of THE LANCET.

SIRS,—I should be very much obliged if you or any of your readers would refer me to any reliable source of information concerning excessive indulgence in citrate of caffein. I wish to ascertain whether the acquirement of a habit of taking this drug has often been met with and what the effects of long continuance of large doses are likely to be. With regard to effects, can it be responsible directly for (*a*) polyuria, and (*b*) very obstinate constipation? And can it of itself lead to pigmentation of the skin? I must apologise for troubling you, but I have been unable to find any accounts on the subject.

I am, Sirs, yours faithfully,

E. T.

LONGEVITY.

IN THE LANCET of Sept. 7th (p. 343) and 21st (p. 427), 1878, and April 5th, 1902 (p. 979), reference was made to the case of a man named Michael Solis who in 1878 was living in Bogotà, Colombia, South America, and at that time claimed to be 184 years old. Evidence, however, was forthcoming to the effect that his age was in reality not much, if at all, over 90. A similar story is now being repeated, the details as given in the *Liverpool Daily Post* of Jan. 30th being to the effect that Manuel Del Valle, of Menlo-park, California, has reached the age of 157 years. The certificate of his birth, which he has always had in his possession, was signed by the then chief magistrate of Zacatecas, Mexico, and shows that he was born there on Nov. 24th, 1745. This proof is supplemented by the records of the Mexican Customs Service, in which he served 20 years, while from 1814 to 1845 he acted as supernumerary in the Franciscan Mission at San Quentin, in Lower California, the first mission building erected on the Pacific coast. In 1845, when he was just 100 years of age, he went with some relatives to what is now San Francisco, and has occupied the house in which he now lives ever since. He is naturally a dried-up specimen of a man, scarcely five feet in height, and weighs about 90 pounds, but he is still able to walk about without assistance and goes for a little stroll every day. His eyesight is considerably impaired, but he hears very well. Naturally, he does not take solid food, and all his life he has abstained from tobacco and alcohol.

QUICK LUNCHES.

To the Editors of THE LANCET.

SIRS,—Your paragraph recommending physicians to impress upon their patients the wickedness of quick lunching does us a great injustice which we feel sure you will be only too glad to remedy when the facts are put before you. The whole matter lies in the misinterpretation of the words "quick lunch." What we mean by that is lunch quickly served. We propose to serve our customers as nearly as humanly possible without waiting. In nine-tenths of the restaurants and tea-rooms at present in existence a customer has to wait too long for his food and this is a waste of his time which we hope to remedy, but we certainly have no wish in any way to dictate as to what time he shall take in eating it. Our customers will be free to take any time they may please in partaking of their meals, and we hope to command their custom by quick service, cleanliness, and the appetising nature of the dishes we expect to place before them. Trusting you will give this the same prominence as you did the paragraph in question, we remain,

Yours truly,

THE BRITISH COFFEE AND QUICK LUNCH SYN., LIMITED
Feb. 7th, 1903. (H. ERNEST BECKETT, Secretary).

THE CASE OF DR. RAINSBURY.

To the Editors of THE LANCET.

SIRS,—I am desired by the council of the Midland Medical Union and by Dr. Rainsbury to acknowledge the receipt of further donations to the fund raised to assist Dr. Rainsbury in discharging the judgment which was given against him at the last Nottingham Assizes and which was deemed to be a great hardship upon him. The judgment was for £25 and the costs were taxed at £152 6*s.* 2*d.*, making together the sum of £177 6*s.* 2*d.* Of this members of the profession have generously contributed £77 0*s.* 9*d.* I have to express Dr. Rainsbury's gratitude to the contributors for their assistance and the thanks of the council for the liberal response which has been given to the appeal.

I am, Sirs, yours faithfully,

GEORGE S. O'ROURKE,
Nottingham, Feb. 9th, 1903. Secretary, Midland Medical Union.

	£	*s.*	*d.*		£	*s.*	*d.*
By contributions already acknowledged	71	18	9	Dr. F. R. Cassidi, Derby (second donation, making £4 4*s*)	2	2	0
Mr. J. F. O'Meara, Walsall	1	1	0	Dr. E. Vaudrey, Derby...	1	1	0
Dr. M. A. Ruffer, Alexandria	1	1	0		£77	0	9

THE PROSTITUTION OF THE POST-OFFICE.

A CORRESPONDENT writes to us that he is extremely annoyed at receiving a money-lender's circular. He asks whether any steps can be taken to prevent a repetition of this gross insolence. We are afraid that nothing can be done. We have on previous occasions referred to the manner in which the post-office distributes money-lenders' circulars, advertisements of quacks, and other offensive literature, but apparently nobody—not even the Postmaster-General—has any power to put a stop to the annoyance. Our correspondent may consider himself lucky that he does not get worse things than money-lenders' circulars and in open envelopes or on post-cards.

SUGAR IN VEGETABLES.

To the Editors of THE LANCET.

SIRS,—Would you kindly tell me whether celery, the white of asparagus, and sea-kale are all rich in sugar?

I am, Sirs, yours faithfully,

Feb. 9th, 1903. B.

*** The following is the proportion of carbohydrates in the vegetables mentioned: asparagus, 2·9 per cent.; sea-kale, 3·8 per cent.; sea-kale cooked, 0·3 per cent.; celery, 3·3 per cent.; and celery cooked, 0·8 per cent.—ED. L.

ARE YOU REQUIRING SPECTACLES?

A CORRESPONDENT has sent us a paragraph thus headed extracted from the *Bradford Daily Telegraph* which is an advertisement of a firm of "consulting eye specialists and ophthalmic opticians" named Forshaw and Co., F.S.M.C. A testimonial in the shape of a letter from Dr. A. Ramage, L.R.C.P., L.R.C.S. Edin., is appended, which says that "it is not surprising that my friend Dr. Charles Forshaw should be so singularly successful as an optician," &c. Such a letter from a qualified medical man to people of the class of Forshaw and Co. seems to us surprising.

QUALIFICATIONS FOR PRESCRIBING.

To the Editors of THE LANCET.

SIRS,—Will you be kind enough to inform me if it is *illegal* in Britain for the possessor of a diploma (M.D.) from a highly reputable medical college in the United States to prescribe or give away a medicine which contains poison? I am, Sirs, yours faithfully,

Feb. 7th, 1903. CLYMONT.

*** It is not illegal for anyone to prescribe or to give away a medicine containing a poison provided that the person so doing does not pretend or imply that he is a registered medical practitioner.—ED. L.

THE TESTIMONIALS TO ODOL.

IN reference to our allusion to a testimonial apparently given by the late Dr. Leonard Wilde to the Odol Company the original document has been produced to us. There can be no doubt that the testimonial in question was printed in perfectly good faith by the Odol Company who believed that they were right in attributing it to Dr. Leonard Wilde. In regard to Dr. A. S. Gubb's letter published in our issue of Jan. 24th disclaiming the testimonial purporting to be given by him to the merits of "odol" we are informed that the words occurred in a compilation made by him from foreign criticisms and that his name was attached to them in error. The proprietors of "odol" state that they have already apologised to Dr. Gubb in a manner that at the time appeared quite satisfactory to that gentleman for their error in affixing his name to the words, but they cannot allow the suggestion to remain uncontradicted that the testimonial is a fictitious one.

SANATORIUMS FOR TUBERCULOUS CASES.

To the Editors of THE LANCET.

SIRS,—I have noticed from time to time inquiries in your columns as to what facilities there exist for giving the poorer classes the advantages of the open-air treatment for pulmonary tuberculosis. I write to tell you that I and my colleague here, Mr. J. E. Chapman, have arranged for the reception of 12 early cases in a house near here where we are prepared to treat them for 17*s.* a week per head. The patients, however, must be genuine early cases. The 17*s.* just cover the cost of board and lodging. There is no charge for professional attendance or drugs, &c. (The patients must, of course, be of the class unable to pay for treatment at even the cheapest sanatoriums.)

I am, Sirs, yours faithfully,

NOEL D. BARDSWELL, M.D., M.R.C.P. Edin., &c.
Mundesley, Norfolk, Feb. 6th, 1903.

Rusticus.—1. Our correspondent will find the answer to his first question in an annotation headed "Ante-Natal Rigor Mortis," which appears at p. 460 of this issue of THE LANCET. 2. It is no doubt possible for meconium to be expelled soon after the death of a fœtus either in utero or after birth by peristaltic action of the intestine, since such contractions persist for some little time, or by the production of increased intra-abdominal pressure due to putrefaction. Its expulsion is, however, much more commonly due to pressure on the abdomen of the child, alive or dead, during birth, or to excessive peristaltic action of the bowel at the time of death.

Country Practitioner.—The community are perfectly right to make a representation to the Local Government Board if they can produce real evidence of jobbery. The Local Government Board would certainly consider such a petition, but a petition claiming the post for a particular candidate on the ground of his diploma or his residence would not have much weight.

M.B. Camb. has not inclosed his name and address.

ERRATA.—Dr. William Hunter requests us to insert the following with regard to his paper on Pernicious Anæmia which was concluded in THE LANCET of Feb. 7th. 1. Page 368, column 1, under "*Summary*," "A spontaneous origin without clear etiology is the rule," should read "is the exception." 2. Page 369, column 2, top paragraph, "the past 25 years," should read "the past 15 years."

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.) London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (21st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (16th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—9 P.M. Dr. H. Radcliffe Crocker: The Conditions which Modify the Characters of Inflammations of the Skin, and their Influence on Treatment. Lecture I.—Introductory. (Lettsomian Lecture.)

TUESDAY (17th).—THERAPEUTICAL SOCIETY (Apothecaries' Hall, Water-lane, Blackfriars).—3.30 P.M. Council Meeting. 4 P.M. Election of Council and Officers of the Society. Papers:—Dr. Hutchison: The Use of Acid Sodium Phosphate in Alcalinity of the Urine.—Dr. Burnet (Edinburgh): Ichthyol in the Treatment of Pulmonic Disease.

PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Card Specimen: Dr. Bainbridge. Papers:—Mr. Barnard: Trauma and Infection at the Epiphysial Line.—Dr. O. Grünbaum: Membranous Gastritis.—Dr. Churton: Chronic Pancreatitis with Calculi.—Dr. B. Shaw and Mr. T. W. P. Lawrence: Abscess of Septum Auricularum; Stenosis of Superior Vena Cava and of Right Pulmonary Veins.

WEDNESDAY (18th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Dr. A. W. Rowe: Demonstration on the Photomicrography of Opaque Objects as applied to the Delineation of the Minute Structure of Chalk Fossils.

THURSDAY (19th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Clinical Evening. Cases will be shown by Dr. E. Cautley, Mr. F. Jaffrey, and others.

FRIDAY (20th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish-square, W.).—5.30 P.M. Clinical Cases by Mr. H. J. Curtis, Dr. G. A. Sutherland, Dr. J. Taylor, Dr. A. Morison, and Dr. L. Guthrie. Paper:—Dr. G. Carpenter: On Cases of Uncomplicated Myocarditis.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (16th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. B. Ball: Adenoma and Adeno-Carcinoma of the Rectum. (Erasmus Wilson Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Clinique. (Skin.) 5.15 P.M. Mr. D. Drew: Diseases of the Breast.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Affections of the Lungs and Pleura.

TUESDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Sir W. H. Broadbent: Clinique. (Medical.) 5.15 P.M. Mr. E. Clarke: Defects of Refraction. II.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Bidwell: Plaster of Paris Splints.

UNIVERSITY OF LONDON (Physiological Laboratory).—5 P.M. Dr. W. D. Halliburton: On the Chemistry of Muscle and Nerve. (Lecture on Advanced Physiology.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Ferrier: Cerebral Tumours.

WEDNESDAY (18th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. B. Ball: Adenoma and Adeno-Carcinoma of the Rectum. (Erasmus Wilson Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. H. Marsh: Clinique. (Surgical.) 5.15 P.M. Dr. G. H. Savage: Insanity of Development.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Robinson: Pelvic Pain.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. P. Kidd: Cases of Laryngeal Tuberculosis.

THURSDAY (19th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Clinique. (Surgical.) 5.15 P.M. Mr. J. J. Clarke: Tuberculous Disease of the Spine.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Treatment of Some Injuries and Emergencies.

UNIVERSITY OF LONDON (Physiological Laboratory).—5 P.M. Dr. T. G. Brodie: On the Circulation. (Lecture on Advanced Physiology.)

CHARING CROSS HOSPITAL.—4 P.M. Dr. Murray: Demonstration of Medical Cases. (Post-Graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Mr. Collier: Demonstration of Selected Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4 P.M. Clinical Lecture:—Mr. H. W. Carson: Some Remarks on Hernia.

FRIDAY (20th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. B. Ball: Adenoma and Adeno-Carcinoma of the Rectum. (Erasmus Wilson Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. E. Clarke: Clinique. (Eye.) 5.15 P.M. Dr. H. L. Barnard: Acute Appendicitis.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Reece: Shellfish Culture in Relation to Disease.

UNIVERSITY OF LONDON (Physiological Laboratory).—5 P.M. Dr. A. D. Waller: On the Action of Anæsthetics and Narcotics. (Lecture on Advanced Physiology).

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1902, which was completed with the issue of Dec. 27th, and the Title-page to the Volume, were given in THE LANCET of Jan. 3rd.

VOLUMES AND CASES

VOLUMES for the second half of the year 1902 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 12th, 1903.

Date	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks 8.30 A.M.
Feb. 6	30·07	S.	...	77	52	41	41	42	Fine
,, 7	30·04	S.	...	66	54	42	49	51	Overcast
,, 8	30·09	S.W.	0·01	60	55	51	50	51	Cloudy
,, 9	30·33	W.	...	76	58	51	51	53	Overcast
,, 10	30·59	S.W.	...	77	56	51	50	51	Overcast
,, 11	30·49	S.W.	...	77	56	46	46	47	Overcast
,, 12	30·29	NNW	...	75	53	36	45	47	Fine

During the week marked copies of the following newspapers have been received: *Leigh Chronicle, Stoke Newington and Islington Recorder, Westminster Gazette, Daily Chronicle, Hertfordshire Mercury, Windsor and Eton Express, Daily Telegraph, Manchester Guardian, City Press, Bulletin de l'Académie de Médecine, Harrogate Advertiser, Walsall Advertiser, Liverpool Daily Post, Surrey Advertiser, Coventry Herald, Belfast News, Birmingham Daily Mail, Municipal Reformer, Yorkshire Mercury, Herts Advertiser, Times of India, Reading Mercury, Mining Journal, Local Government Chronicle, Thames Valley Gazette, &c.*

Communications, Letters, &c., have been received from—

A.—Mr. W. E. R. Allen, Cardiff; Messrs. Armour and Co., Lond.; Aymard Patent Milk Sterilizer Co., Ipswich; *Aberdeen Daily Journal*, Editor of; Messrs. Allen and Hanburys, Lond.; Mr. J. W. Ayres, Liverpool; Dr. W. D. Anderson, Ballachulish; Army Medical Service, Lond., Director-General of; The Assistant Serjeant-at-Arms; Messrs. Ayrton and Saunders, Liverpool.

B.—Mr. S. H. Benson, Lond.; Mr. J. W. Benson, Lond.; Lieutenant-Colonel Bruce, R.A.M.C., Lond.; The Bayer Co., Lond.; T. B. Browne, Ltd., Lond.; Mr. Wm. Foster Brown, Montreal; Messrs. Bergwein and Co., Meran; Mr. F. J. Batt, Lond.; Dr. T. B. Bradshaw, Liverpool; B.; Dr. J. Burnet, Edinburgh; Dr. N. D. Bardswell; Dr. H. S. D. Browne, Winchester; Messrs. C. Barker and Sons, Lond.; Mr. E. Stanmore Bishop, Manchester; British Coffee and Quick Lunch Syndicate; Dr. Duncan F. Brown, Greenock; Mr. E. B. Brown, Lond.

C.—Cortland Wagon Co., Lond.; City Advertisers' Agency, Lond.; Mr. F. G. H. Cooke, Lond.; Dr. G. Cotti, Grana, Italy; Messrs. Crosse and Sons, Lond.; Mr. F. W. Collingwood, Lond.; Messrs. Carfax and Co., Lond.; Miss E. Camplin, Boulder City, Western Australia; Clymont; Dr. A. J. Cleveland, Norwich; Mr. Mayo Collier, Lond.; Dr. H. Campbell, Lond.; Mr. T. S. Carter, Leeds; Central Insurance Co., Financial Editor of.

D.—Captain W. Dixon, Lond.; Mr. A. Driessen, Lond.; Dorset County Hospital, Dorchester, Secretary of; Mr. T. Dixon, Lond.; Dr. A. C. Dutt, Hull; Rev. S. E. Davies, Wyke Regis.

F.—Dr. D. Ferrier, Kyle; F. S.; Dr. H. Morley Fletcher, Lond.; Mr. W. E. Fry, Lond.; Mr. W. P. Fox, Lond.

G.—Dr. M. Greenwood, Lond.

H.—Dr. W. S. Handley, Lond.; Mr. G. Heaton, Birmingham; Mr. W. Harbrow, Lond.; Mr. J. T. Hartill, Short Heath; Messrs. Hamilton and Co., Lond.; Dr. E. H. Harrisson, Harrow; Mr. A. E. Holden, Dublin; Captain J. H. Hugo, I.M.S., Nepal, India; Dr. W. Hunter, Lond.

J.—Miss G. Jones, Lond.; *Journal of American Medical Association*, Chicago, Editor of; Mrs. Heywood Johnstone, Bignor; Dr. H. Macnaughton Jones, Lond.; Dr. Jellinek, Vienna; J. C. U.; Mr. H. Jaffé, Lond.

K.—Dr. F. Kunz, Lintorf; Messrs. R. A. Knight and Co., Lond.

L.—Dr. R. Leftwich, Lond.; Liverpool School of Tropical Medicine; Mr. Llewellyn Lewis, Neath; London County Council, Clerk to; Liebig's Extract of Meat Co., Lond.; Messrs. Wm. Le Lacheur and Son, Lond.; Messrs. F. Longdon and Co., Derby; Leucocyte, Lond.

M.—Mr. C. B. Maunsell, Dublin; Medical Society, President of; M. B., Camb.; Messrs. Mundy, Gilbert and Co., Birmingham; Marmite Food Extract Co., Lond.; Medical Practitioner of 20 Years' Standing; Dr. W. Murrell, Lond.; Dr. G. N. Meachen; Messrs. Matthews and Brooke, Bradford.

N.—Dr. J. T. Neech, Halifax; Dr. A. E. Neale, Twickenham; Mr. W. G. Nash, Bedford; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.

O.—Dr. James Oliver, Lond.

P.—Dr. P. M. Penman, Fleetwood; Dr. H. F. Parker, Guildford; M. Pernotte, Paris; Mr. C. C. Parsons, Hove; Mr. Norman Porritt, Huddersfield; Messrs. Peacock and Hadley, Lond.

R.—Royal Meteorological Society, Lond., Secretary of; Royal London Ophthalmic Hospital, Secretary of; Royal College of Physicians, Edinburgh; The Retreat, York, Secretary of; Messrs. Reynell and Son, Lond.; Mr. C. H. Ritchie, Dundee; Royal Surrey County Hospital, Guildford, Secretary of; Mr. E. J. Reid, Lond.; Rustieus.

S.—Mr. A. Smith, Dulwich; Mr. H. Sherriff, Lond.; Messrs. W. B. Saunders and Co., Lond.; Spring Axle Cycle Co., Lond.; Mesdames Sykes, Josephine and Co., Lond.; Mr. J. T. Szek; Messrs. Spiers and Pond, Lond.; Messrs. G. Street and Co., Lond.; Scholastic, Clerical, &c., Association, Lond.; Dr. Oscar Sachs, Lond.; Mr. J. Sheehan.

T.—Dr. E. F. Trevelyan, Leeds; Messrs. J. G. Thomson and Co., Lond.; Threecis Plug Co., Lond.

V.—Vacuum Cleaner Co., Lond.

W.—Mr. M. Way, Portsmouth; Messrs. W. Wood and Co., New York, U.S.A.; Messrs. Watson, Son, and Smith, Bradford; Wolverhampton General Hospital, Secretary of; Mr. Layton Wrigley, Netherton, Huddersfield; Mr. O. Williams, Lond.; Dr. E. White, Lond.; Dr. H. Walsham, Lond.; Dr. W. Williams, Cardiff; Mr. G. St. S. Williams, Oxford; Mr. J. P. Walters, Lond.; Dr. N. Wallace, Liverpool; Mr. H. M. Wilson, Lond.; Dr. W. Hale White, Lond.; Dr. Ernest W. White, Dartford; Dr. T. Outterson Wood, Lond.; Writers' Year Book, Editor of.

Y.—Dr. E. H. Young, Okehampton.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. J. J. Alexander, West Malling; A. M. R. S.; A. G. E.; Dr. G. N. Adams, Kenfig Hill; Mr. L. B. Atkinson, Lond.; *Auckland Chronicle*, Manager of; A. S.; A. D.; A. G. B.; A. V. C.

B.—Mr. E. Blatchley, Lond.; Messrs. Bedford and Co., Lond.; Buntingford House Retreat, Secretary of; Dr. R. L. Brander, Aspley Guise; Bunnu, India; Civil Surgeon of; Messrs. Baillière, Tindall and Cox, Lond.; Barnwood House Hospital, Gloucester; Birmingham General Hospital, House Governor of; Miss Barlow, Southport; Miss Bolton, Newchurch-in-Rossendale; Belfast District Lunatic Asylum, Medical Officer of; Dr. L. H. Bruce, West Cornforth.

C.—Mr. W. H. Cleveland, Selby; Messrs. S. Clark and Co., Lond.; Dr. J. Cunningham, Wellingborough; C. F. W.; Dr. T. Colvin, Glasgow; Cotswold Sanatorium, Cheltenham, Secretary of; Mr. L. Cuvellier, Lond.; Mr. T. J. M. Clapperton, Barnsley; Dr. P. W. L. Campe, Lond.; The Coppice, Nottingham.

D.—Dr. J. W. Dalgliesh, Lond.; Mr. F. K. Dickson, Buxton; Dr. W. C. Daniel, Epsom; David Lewis Northern Hospital, Liverpool; Mr. N. R. Dharmavir, Mexborough; Doctor, Sharnbrook; Dr. G. H. S. Daniell, Blandford; Dalrymple Home, Rickmansworth; Mr. S. C. Duncan, Moreton-in-Marsh; Messrs. Dowie and Marshall, Lond.; Miss Dickes, Lond.

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